POLYGRAPHICE:

OR,

The Arts of Drawing, Engraving, Etching, Limning, Painting, Vernishing, Japanning, Gilding, *&c.*

The Second Volumn.

CONTAINING,

The Latter Five Books.

VIZ.

VII. *Of* Alchymie, *and the* Grand Elixir *of* Philosophers.

VIII. *Of the* 112 Chymical Arcana *of* Peter Faber.

IX. *Of* Chiromantical Signatures.

X. *Of* Staining *and* Painting Glass, Enamel, *and* Gems.

XI. *Of* Vernishing, Japanning, *and* Gilding.

The Seventh *and* Ninth Books, *are almost all of them, and the* Two last Wholly New.

By *WILLIAM SALMON*, M.D.

LONDON,

Printed for *A.* and *J. Churchill*, at the *Black Swan* in *Paternoster Row.* And *J. Nicholson*, at the *King's-Arms* in *Little-Britain.* M DCCI.

W. Musgrave.

Directions to the Book-binder.

ALL the *Cuts* or *Figures*, except the two laſt, *viz.* from N° I. to N° XXI. Incluſive, are to be placed at the End of the Firſt Volumn.

MVSEVM BRITAN NICVM

The two laſt *Cuts* or *Figures*, *viz.* N° XXII. and N° XXIII. are to be placed at the end of the Second Volumn.

POLYGRAPHICES

LIBER SEPTIMUS.

Of ALCHYMIE: *Wherein is treated of the true Philoſophers Tincture, and Proceſs of the ſame.*

CHAP. I.

Of Alchymie *in General.*

I. ALCHYMIE is an *Arabick* word, and ſignifies the Tranſmutation of Metals, Semi-Metals and Minerals.

II. It is then chiefly concerned with the Mineral Kingdom, which conſiſts of Metals, Semi-Metals, Salts, and Stones.

III. The Metals are in Number Seven, *viz. Saturn, Jupiter, Mars, Sol, Venus, Mercury*, and *Luna*; called by the Vulgar, *Lead, Tin, Iron, Gold, Copper, Quick-ſilver*, and *Silver*.

IV. The Semi-Metals are, *Antimony, Cinnabar, Tinglaſs*, and *Zink*.

V. The Salts are chiefly, *Vitriol, Sulphur, Arſenick, Alum, Nitre, Borax*, and *Salt*.

VI. The chief Stones are, *Lapis Calaminaris, Tutie, Lazuli*, and *Lime-ſtone*.

VII. Now out of theſe the *Alchymiſt* deſigns one of three things: to wit, 1. Either the *Counterfeiting* of the fine Metals. 2. Or the *Separation* of fine Metals out of the baſe: or, 3. The *Generation* of the fine Metals out of the baſe, by *Tranſmutation*.

VIII. The *Counterfeiting* of the fine Metals is done by giving the Color and Body of a fine Metal to that which is base; as the tinging of *Lead* into a *Gold* color; the whiting of *Copper*; the reduction of *Mercury* or *Quick-silver*.

IX. The *Separation* of fine Metals out of base, is done by attracting of the Particles or Atoms of the fine (contained in that baser) into one heap or mass, that they might not be carried away by the wings of the Volatile or baser Metal.

X. *Thus it appears, there is a large quantity of Gold, in Lead, Tin, Copper and Silver: and much Silver in Tin, Copper, and Iron: the proof of this is manifest by the parting Say (as they call it) to wit, the Test by Strong Waters; by which you may find that one pound of Lead will yield near three or four penny weight of Silver, and one of Gold.*

XI. *One pound of Tin will yield something above an ounce of Silver; and about two penny weight of Gold, or more; one pound of Silver will yield about one ounce of Gold; and Copper about a quarter of the same quantity, or more,* &c.

XII. *But this is according to the goodness of the Metals, and the skill of the Undertaker; for by this way of Separation, what is gotten will never pay the Cost, it remains therefore, that we search out some way more profitable, the which in the following Lines, to the true Sons of Art, we shall faithfully present according to the best of our knowledge: But we are bound to be a little the more obscure, for the sakes of some ingrateful Men, by whom we know our just meaning will be traduced; our skill in Art abused; and our person sought to be rent and destroyed, should we but adventure to be so open, as to give them the clear knowledge thereof. Let others search as we have done, it is some satisfaction, that the matter here sought, is really in* rerum natura; *the which joined to the certainty of anothers attaining thereof, may give life to future hopes, which as the purcurser of better things, may point at the great work it self.*

XIII. The Matter of Transmutation is done by that great *Pouder*, *Tincture*, *Elixir*, or *Stone* of the Philosophers, which, according to the Opinion of *Paracelsus*, and others the most learned, we shall signifie in few words.

XIV. By

XIV. By this *Tincture* or *Elixir*, according to the judgment of the Ancients the whole Body of any Metal (being ſeparated from its impurity) is changed into fine Gold.

CHAP. II.

Of Saturn, *or Lead.*

I. *Saturn* is a cold, groſs, dull and heavy Body, replete with much Impurity, yet full of a Golden Mercury.

II. It is tinged into a pure Golden Color by calcination thereof with Antimony, and imbibing the Calx thereof with the *Spirit of Venus*, *Lapis Calaminaris*, *Tutia*, and *Zink*, ſeverally prepared, and mixt *ana*, and then reduced, adjoyning to every ounce of Lead in *Calx*, a penny weight of the Golden Sulphur of *Venus*.

III. Its *Lunar property* is extracted, by a ſimple calcination with *Arſenick* and *Nitre*, *ana*, and imbibition of the ſaid *Calx* for about ſeven days in the *Oil of Salt*.

IV. *Or thus*, Take of our Seed or Salt of *Luna* one ounce, of the Salt of *Venus* one ounce and a half; of the crude body of *Saturn* one ounce, mix, and melt them; then ſeparate, and you ſhall have the *Saturnian Luna*, with conſiderable advantage.

V. Take Lead beaten into thin Plates; and let them be put into a Glaſs Veſſel, together with common Salt and Mercury: Let it be well cloſed together, and digeſted in the Earth or Horſe-dung, for ten whole Months; and it will be converted into Quick-ſilver.

VI. Take Lead purified a pound, *Sal Armoniack* two ounces in pouder, *Sal Nitre* in pouder one ounce, *Sal Elebrot* bruiſed, half an ounce: Put all into a Crucible on a violent hot fire, for two whole hours; then take it out, and it will be prepared for the Silver work.

VII. *Or thus*, Get an earthen Pot, whoſe bottom is full of holes, put it into another Pot, and let it be covered in a ſmall Pit: dig up the Earth thereon on every ſide, and tread it down with your Foot: Fill the upper

void place with unſlaked Lime, to the middle: then take Lead cut into thin little bits, and lay it upon the Lime; and over the Lead more Quicklime: put upon it boil'd Urine, cover the Pot and lute it well; make a great fire on every ſide, heaping it up even over the top, and continue it ſo for a day; ſo ſhall a purified Lead fall through the Lime and Holes into the lower Veſſel, which will be prepared for Tranſmutation.

VIII. Or Lead may be thus purified. Melt your Lead often, and caſt it into the ſharpeſt Vinegar: Melt it again, and caſt it into Juice of Cellandine: then into Salt-water: then into Vinegar, in which *Sal Armoniack* has been diſſolved. And laſtly, let it be poured out into the Cupel, and ſo it will be very well purified.

IX. Take Spring-water, Vitriol, of each a pound; mix them together: filter through brown Paper, and diſtil the Water off in a Glaſs Alembick, which keep in a Glaſs for uſe. Take Quickſilver an ounce: put it into a Crucible over the fire; and when it begins to be hot, add purified Leaf Gold an ounce; and ſo remove it from the fire: then take of your purified Lead one pound; amalgamate it with the aforeſaid mixture of Quickſilver and Gold, over a gentle fire, ſtirring it with an Iron Rod: being well mixed, put thereto an ounce of the former Vitriol Water, ſtir, digeſt a Month, evaporate, and you have a Medicine in order to Tranſmutation.

X. *The Preparation of* Saturn. Set it in a Furnace of Calcination, ſtirring it while in Flux, as you do *Jupiter*, till it be converted into Aſhes: ſift this, and ſet it again in a Fire of Calcination, till its fugitive and inflamable ſubſtance is gone: then take this red Calx, imbibe and grind often with common Salt cleanſed, Vitriol purified and ſharp Vinegar: this matter often imbibe, dry and grind, till all its uncleanneſs be wholly removed: this done, add Glaſs ground to pouder, mix them well together, and make them flow in a Crucible. Calcine it again with pure *Sal Armoniack*, and moſt ſubtilly grind and diſſolve it into a clear Water upon a Porphyry Stone in the open Air, in a cold and moiſt place; augmenting the Salt, if need be. This is the Preparation of the Ferment of Lead for the *Red Elixir*.

CHAP.

CHAP. III.

Of Jupiter, *or Tin.*

I. *Jupiter* is much a more noble body than *Saturn*, and (as we ſaid before) abounds much more with a *Solar* and *Lunar* Mercury.

II. It is reduced into the *Imitation* of Silver by often melting of it, and quenching of it in the Spirit of *Arſenick*; or by Calcination of it with *Lime* (three ounces to a pound of *Jupiter* granulated) and then by often extinguiſhing the ſame in the ſpirit of *Arſenick* aforeſaid.

III. The *Luna* is extracted out of it thus: Let *Jupiter* be married to our *Luna* of the ſame ſtature, by the Prieſt *Mercury*, after which let them drink their fill of the *Mineral ſpirit* of the Grape; then put them to Bed in the exaltation of *Luna*, and houſe of *Venus*, and the next morning let them drink very well of the fruitfull Wine of the Daughter of *Luna*; this being done, you will find *Luna* like a Bride coming forth out of the Marriage Chamber; but with the Wings of an *Eagle*, which Wings you muſt clip by the means of *Mars*, elſe you will loſe her: Thus, take of the Seed of *Mars*, and the eldeſt Son of old *Saturn*, *ana*, make them contend with *Tellus*, for three whole days and nights, till they conjoin and beget a Son, white as *Luna*, and fixt as *Sol*. This Son will by force take *Jupiter*'s Wife from him, and being fruitful cauſe her to bring forth a plentiful and profitable Iſſue.

IV. *Or thus*, Kill *Jupiter* (in conjunction with *Luna*) by the fire of *Tellus*, then revive the dead Body (after it is impregnated with the *Mineral ſpirit* of the Grape) by the help of *Saturn*, and you have a numerous off-ſpring of *Luna*.

V. *Or thus:* Marry *Jupiter* to *Luna*; then marry him to her daughter, and join theſe Iſſues together, and they will ſympathetically attract and join all the Seed of *Luna* into one family or lump.

VI. *Or thus:* Which is both the beſt and eaſieſt way. Take *Jupiter* and melt him, then quench him ten times in the *Spirit* of *Venus*, till he is reduced very ſmall and low: this done, join him with the Daughter of *Luna* calcined with *Tellus*, and the work is over. *This is very profitable, and the moſt uſeful of all, but by reaſon of the unworthineſs of this generation, it cannot admit of any explication.*

VII. The Gold is thus Extracted: marry *Jupiter* to *Venus*, and their off-ſpring to *Sol* by the means of Prieſt *Mercury*: put them to Bed (in the life of *Phœbus*) for three whole days and nights, afterwards make them drunk with the ſpirit of the Daughter of *Venus*, then make a perfect conjunction with the eldeſt Son of *Saturn*, and you ſhall have what you ſought.

VIII. *Or thus:* Calcine *Jupiter* granulated one pound, with *Quick-lime* four ounces, mix all with the *Calx* of *Venus* and *Luna ana*; calcine again for three days, imbibe in the ſpirit of *Venus* (that is, the fixed Oil) for ſeven days, then reduce to a *regulus* with *Saturn*, and afterwards ſeparate with *Antimony*.

IX. *The preparation of Jupiter.* Melt *Jupiter*, and continually ſtir it with an Iron Rake, till it is brought to Aſhes. Theſe Aſhes ſift, calcine them again, adding fire not exceeding the Fire of its fuſion, and ſtir it often, calcining it for 24 hours, till all its ſuperfluous humidity be waſted: then well waſh it with purified common Salt and Alum; and moſt ſharp Vinegar, and dry it; grind again, and waſh and dry, doing thus ſo often, till by the acuity of the Salts, Alum and Vinegar, its whole humidity, blackneſs, and filth is done away and conſumed. Add to it Glaſs in pouder, mix, and with a ſufficient fire make it flow in a Crucible, having a hole in its bottom, ſet within another, and the pure clean body will deſcend; the whole Earthly feculent ſubſtance remaining above with the Salts and Glaſs: for in that Body reduced and deſcended is an equal and perfect proportion of pure Argent Vive, and white Sulphur not burning; becauſe fire and the Corroſives, have divided the whole humidity, and fugitive inflamable, corrupt, and black ſubſtance: and through that deſcenſory the whole feculent ſubſtance is compleatly ſeparated. Afterwards calcine this pure reduced Body again, with

pure

pure and clean *Sal Armoniack*, until it be in weight nearly equal: being well and perfectly calcined, grind the whole well upon a Porphyry Stone, and put it in the open Air in a cold and humid place, or in a Glass Vessel in Horse-dung until the whole be dissolved, augmenting the Salt, if need be. This water is the ferment of *Jupiter*, for the *White Elixir*.

CHAP. IV.

Of Mars, *or Iron*

I. MArs is yet a more noble body, but harder and more replete with *scoria* or filth, yet full of a Solar and Lunar Mercury.

II. It is converted into Copper by the *Oil or Spirit of Venus*: into Brass by the means of *Lapis Calaminaris*, and made to imitate Silver by impregnating its *Calx* in the burning Spirit of *Arsenick*.

III. It has much Silver and Gold in it, But they are extracted with great difficulty; thus, first melt the body with an equal quantity of *Tin, Lead and Copper*; this done, granulate it, and imbibe the body with *Oil of Venus* very strong, then calcine it with the butter of *Arsenick* (if you extract its Silver,) or *Antimony* (if its Gold) imbibe this *Calx* over a gentle heat in the strongest Oil of Flints, or Sand for ten days: then reduce it.

IV. *Mars* is whitened by the rules which we have delivered in *Lib. 3. cap. 26. Sect. 31.* and made of a Golden Colour by Sect. 28. of the same Chapter.

V. *The preparation of Mars.* Let it be calcined as *Venus* with common Salt cleansed, and let it be washed with pure Vinegar; being washed, dry it in the Sun, and when dryed, grind and imbibe it with new Salt and Vinegar, and then put it into the same Furnace, as we shall hereafter say of *Venus*, for three days: this calcination dissolve into a clear water, which is the water of the fixed Sulphur, wonderfully augmenting the Colour of the *Elixir*.

VI. *Another preparation of Mars.* Grind one pound of the filings thereof, with half a pound of *Arſenick* ſublimed. Imbibe the mixture with the Water of *Salt-peter* and *Sal-Alcali*, reiterating this Imbibition thrice: then make it flow with a violent Fire, and you will have your Iron White; Repeat this work till it flow ſufficiently, with peculiar dealbation.

VII. Take of the *Calx* of *Mars* made into a Paſte with *Mercury* ij. pounds: of *Venus* iv. pounds: of *Saturn* iv. pounds: mix theſe without Ferment, and boil the mixture for ſeven days, and you will find the whole dry. Fix it and put it (together with half its weight of Litharge beaten into Pouder) into a reducing Furnace, and you will find a body of great profit.

CHAP. V.

Of Sol, *or* Gold.

I. SOL is the pureſt of all Metals, and the very perfection of the Mineral Kingdom, at the which, all our pains, labours and endeavours aim.

II. This *Gold* of it ſelf is dead and without force or power, but being quickned, and enlivened, it has an inward *ſeminating* or *germinating* property, which being raiſed and brought forth by its *innate life* (till now lockt up) can dilate it ſelf (*having a fitting Womb to receive it*) into ten thouſand times its own quantity; and thereby *tranſmute* or *change* the Mercurial property (which is indeed immature Gold) of all Metals into its own nature and kind.

III. This *immature Gold* in the bodies of all Metals would have come to perfection of its own accord, had it been ennobled with a ſufficient ſulphur, life and heat, to have cauſed ſuch a natural *fermentation and excretion* of the abounding filth and droſs, in which the ſo ſmall particles and Atoms of the Seminal Golden property was latent, or buried.

IV. The quickning of the inward life of this Metal is ſolely done by the help of the Seed of Metals, to wit, *Mercury*,

Mercury, but how or after what manner we ſhall more plainly ſhew in *Chap.* 12. following

V. *Sol is thus prepared.* Take Sol beaten into thin Plates, or rather Leaf Gold, and with them and Common Salt prepared, make Lay upon Lay in a Veſſel of Calcination, which ſet into a Furnace and calcine well for three days, untill the whole be ſubtilly calcined; then take it out, grind it well, waſh it with Vinegar, and dry it in the Sun, afterwards grind it well with half its weight of Sal-Armoniack, cleanſed from its common or Sea-Salt; ſet it to be diſſolved, untill the whole (by the benefit of the Salt) be diſſolved into a moſt clear water: this is the precious Ferment for the Red Elixir, and the true body made Spiritual.

VI. Take Gold diſſolve it in its own water, and decoct and prepare it, by boiling it away to a third part: then expoſe it to the Air, and ſet it in Balneo or in Dung for certain days; then will it be the Oil of Gold; ſo will the Ferment of Sol be perfect for the Red, which keep for uſe.

CHAP. VI.

Of Venus, *or* Copper.

I. *Venus* is the fineſt of the baſe Metals, and contains more of a *Golden Sulphur* than them all.

II. She is *Whitened*, and made like unto *Silver*, by calcining it with Butter of the Daughter of *Luna*, and *Salt of Tartar*, and then reduced by *Saturn*, and being often melted and extinguiſhed in the ſaid Butter.

III. Or thus, To the afore reduced *Venus*, being melted add (for an ounce of *Venus*) two penny weight of our fixed *Mercury*.

IV. She is made of a *Golden* colour by often changing the *calx* (calcined with the Son of *Saturn*) in the Spirit of *Antimony*, *Zink*, *Lapis Calaminaris*, and *Lapis Tutia*: then reduced by being melted with a ſufficient quantity of *Lapis Tutia*, and ten or twelve times melted, and quenched in the aforeſaid Spirit.

VI. Her

V. Her *Silver* is extracted as that of Tin by the Third *Sect.* of *Chap.* 3. *Or thus*, calcine her with *Butter of the Daughter of Luna*, to which *calx* adjoin the *calx* of *Lunæ ana*, and reduce with *Saturn*.

VI. Her *Gold* is extracted thus: Calcine her with the *Son of Saturn*: then calcine *Luna* with the ſame alſo: put both theſe calxes together and calcine for three days with the *Son of Saturn* mixt with *Tellus*; to which add the *Calx of Sol* calcined with the ſame *Son of Saturn*, *Aná*; put all together and calcine them for twenty four hours, reduce them with *Antimony*, keep them all in a melting heat for three days, then take it forth, and quench it being melted ten or twelve times in the tinging and fixing Spirit of *Lapis Calaminaris*, *Antimony* and *Zink*, *Aña*.

This is very profitable, and not difficult to perform; it may be done alſo (as before) without calcination.

VII. *Venus* is made of a *Silver* colour thus. Take Mercury ſublimate, and a proportionable quantity of philoſophick *Sal-Armoniack*; add Vinegar, and let them boil together: in this quench *Auricalcum* or *Copper* (being heat red hot) and it will become white like *Silver*.

VIII. She is made of a *Gold* colour thus. Take *Copper*, *Lapis Calaminaris*, of each half an ounce; *Lapis Tutia* ij. drachms: let the *Copper* be firſt heat red hot and extinguiſhed 2 or 3 times in Urine: do the like with the *Lapis Calimanaris and Tutia:* To the *Copper* thus prepared add Honey half an ounce, boil them together till the Honey becomes black and dry: which take and beat with the *Lapis Calimanaris* and the *Tutia*, then mix all together by melting, and you have your deſire.

IX. *She is whitened thus.* With purified and reduced Litharge mix ſublimed *Arſenick*; and caſt it upon *Copper* in fuſion; it whitens it very well.

X. *Or thus.* Mix *Silver* and *Copper* together; and upon that mixture caſt the Whitening medicine. For the *Silver* is a greater friend to *Arſenick*, than any other Metal; it alſo takes away fraction from it,

XI. *Or thus.* Upon a mixture of *Venus* and *Luna* melted caſt pieces of ſublimed *Arſenick*, and *Mercury*: They are better in pieces than Pouder, becauſe the Pouder conſumes and vaniſhes ſooner, or before it can do its operation.

XII. Take

XII. Take *Mercury* precipitate, and *Copper* calcined, diſſolve each a part in diſſolving Water and mix the diſſolutions together; coagulate, and put the whitening Medicine on it, and it will be exactly like *Silver*.

XIII. *Or thus.* Take *Mercury* precipitate, and Litharge, diſſolve each a part: joyn theſe ſolutions in one: then take the Calx of the Body you intend to whiten, diſſolve it: joyn all theſe together; coagulate, and reduce with *Borax*.

XIV. *Or thus.* Take *Quick-ſilver*, ſublime it ſo often from precipitate *Mercury*, till it be fixed in it, and ſprouts forth, put this upon melted *Copper*, and it will be very white.

XV. *Or thus.* Diſſolve *Leaf Silver* and Litharge in a proper diſſolving Water: joyn theſe ſolutions together; and by theſe the ſubſtance of *Copper* will be whitened.

XVI. *Or thus.* It is alſo whitened with ſublimed *Arſenick:* Take Calx of *Copper*, mix it with ſublimed *Arſenick*. Reiterate the Sublimation, and continue it till the *Arſenick* ſtay with it: this will be the more eaſie and firm if a quarter part of the Calx of *Silver* be added to the ſaid Calx of *Copper*.

XVII. *Or thus.* Put the ſublimed *Arſenick* to the *Silver*; and then the whole upon the *Copper*, and it will be excellently whitened: Or mix Litharge, or Calx of *Lead* diſſolved with *Silver*, put this upon *Arſenick*; and laſtly caſt all this mixture on the *Copper* Body and it will be very white.

XVIII. *To Prepare Copper.* Cement very thin Plates of *Venus* with Common Salt well cleanſed in a Crucible, covered and well luted, for 24 hours: this cementation repeat (ſcraping off what is calcined) till all the Plates are conſumed. Grind this Calx to a moſt ſubtil Pouder and waſh it with Vinegar, till it comes from it colourleſs: imbibe it again with Salt and Vinegar, grind, and calcine in an open Veſſel for 3 days; take it out, grind, and waſh well with Vinegar, dry, and add half its weight in Sal-Armoniack, grind till it is impalpable, and expoſe it to the Air to be diſſolved, adding ſtill freſh Sal-Armoniack if need ſhall be, till the whole be made Water. This is the Water of the fixed Sulphur of *Venus*.

CHAP.

CHAP. VII.

Of Mercury *or* Quickſilver.

I. *Mercury* is the Root of Metals, and pure immaturate *Gold*.

II. By this the Body of *Sol* is opened thus: make an Amalgama of *Sol* and *Mercury* ſo long till the *Mercury* will ſwallow up no more: ſeparate and you ſhall find your *Gold* like Earth newly broken up: this *Gold* being put into the ſweet Oil of Salt becomes more perfectly diſſolved, which being diſtilled till it comes over the Helm will anſwer your intenton: but there is a more noble and excellent way of opening of the Body of *Gold* which here we may not declare, yet in its due and convenient place ſhall be manifeſt, and that is only by the help of a perfect ſweet, or rather *inſipid menſtruum*.

III. *To make our white Mercury*; This is only done by a ſimple diſſolution in the aforeſaid *inſipid menſtruum*.

By this white *Mercury*; is *Copper* made of a durable white, after a thouſand meltings.

IV. *To make our red Mercury*; This is done by a diſſolution of the Spirit of *Tellus*, and then tinged by the Mineral Spirit of the Grape: and laſtly *fixed by the green Spirit of* Venus. *This will perfectly unite with* Gold, never more to be ſeparated by all the Art of Man.

V. Take *Quick-ſilver* 2 or 3 times purified with Sal-Armoniack and Urine; put it into a Crucible over a temperate Fire; when it waxes hot, put prepared *Jupiter* thereon as much, and augment the Fire by degrees, till the Flame grows blew: make the Fire then ſtronger, and blow a little: when you ſee it begins to give over ſmoaking, take it from the Fire, and you will find your *Silver* conſiderably Augmented.

VI. Take Sulphur of *Venus*, pure, red, and fixed, but melting like Wax: caſt it upon purified *Mercury*, in a juſt proportion, and in a fit heat; and the *Mercury* will become good *Gold*.

VII. *To*

VII. *To harden Quick-ſilver.*. It is done with the fumes of either *Saturn* or *Jupiter*. Melt *Jupiter*, and when it begins to be cold, make holes in it, and put your *Quick-ſilver* therein, and it will be hardned; which being repeated often, will be the more firm.

VIII. Take *Mercury* and Salt-Peter, ana: beat them into duſt, put them into a Glaſs well Luted, over a gentle Fire for 2 hours: augment the Fire, till the ſmoaking ceaſes: after the ſmoak comes a Flame, out of the neck of the Glaſs, and the Mercurial Sulphur remains in the bottom, as it were white and fixed. Take it out, and add to it an equal quantity of Sal-Armoniack; beat them to a Pouder and mix them well; ſublime, firſt in moderate Fire; then in aſtronger; ſo continuing for 4 hours: take this ſublimate, and ſublime it again with its *fæces* 6 times, ſo will the Sulphur remain in the bottom of the Veſſel: take it, beat it to Pouder, and on a Marble, let it reſolve to an Oil: This is Sulphur of *Mercury* for Tranſmutation.

IX. Take purified *Quick-ſilver* ij. ounces: *Leaf-ſilver* j. ounce: make an Amalgama, and let it ſtand 7 days, then ſublime therefrom the *Silver*, waſh it in Water clean, and dry it. Take this Calx of *Silver* and diſſolve it in *Aqua fortis*, and evaporate to dryneſs: mix this dry Calx with Borax, and melt it into a Maſs: Take of this *Silver* and mix it with the like weight of fine *Gold* and you have a prepared Body to be tinged of a *Gold* colour: Make of this an Amalgama with ten times its weight of purified *Quick-ſilver*: Abſtract the *Silver*, and you have a porous Body, fit to receive the tinging Medicine.

X. *The Ferment of Ferments.* It is made for the white after this manner. Take Ferment of *Luna* with its Oil (at *Chap.* 8. *Sect.* 6. and 7.) add to it twice as much Arſenick, ſublimed and diſſolved in its proper Water: then to both theſe add *Mercury*, diſſolved as much as the Arſenick: Mix the Waters and ſet them over a Fire for one day to be incorporated: then draw off the Water by an Alembick, and Cohobate it 15 times; ſo incerating, it will be fluid as fuſible Wax. Add as much melted Wax, commix, and project upon *Mercury* waſhed, as you deſire.

XI. *The*

XI. *The Ferment of Ferments for the Red.* Diſſolve *Sol* in its own water; add to it Sulphur, diſſolve it in the ſame water 2 parts: *Mercury* diſſolved 3 parts: let all be truly diſſolved into a moſt clear water, which being mixt boil for one day, that they may be Fermented, draw off, cohobate the water 15 times: Incerate with yellow Virgins Wax, with half its weight of Oil of Blood or Oil of Eggs: then project upon Crude *Mercury*, and you ſhall have your deſire.

CHAP. VIII.

Of Luna, *or* Silver.

I. *Luna* is the meaneſt of the fine or pure Metals, and (as it were) *white Gold.*

But *Luna* differs from *Gold*, more than in the colour only; *viz.* in Weight too, and that very conſiderably.

II. She is tinged of a *Golden* colour by our red *Mercury* (calcin'd *per ſe* for 28 days in a *Pelican* or other convenient Veſſel, till ſuch time as the ſaid *Mercury* will endure the ſtrongeſt Fire) the yellow colour this *Mercury* gives is fixed.

III. Her *Gold* is exactly extracted by the method delivered in *Chap. 6. Sect. 6.*

Or thus, Take *Sol*, *Luna*, *Venus*, of each a like quanty; melt them together, and keep them in fuſion for 7 days: then take them forth, and by the Refiners Art ſeparate the *Gold*; you will find your *Gold* (if you have been careful in the Operation) to be augmented nearly an ſixteenth part.

IV. *Or thus*, Calcine her with the Son of *Saturn*, to which add our red *Mercury*, *ana.* put all into Oil of Salt for ten or twelve days; heat it red hot, and extinguiſh in Oil of Flints or Sand ten times; to this Calx add of fine *Lapis Tutia*, *ana.* reduce all and ſeparate with Antimony.

V. Take Sal-Armoniack ij. pound; purified from its Common or Sea Salt: pure Vermilion ij. pound: Grind them again together and ſublime 6 or 7 times: then

then lay the Vermilion on a Marble ſtone to diſſolve into Water, which keep for your Work. Take pieces of freſh Vermilion iij. ounces wet it in the former water, and afterwards in the Glair of Eggs: and roul it in the filings of fine *Silver* ij. ounces, ſo often till it has taken up all the ij. ounces of *Silver*. Put theſe in a firm *Iron* Pot, which may be cloſed with a ſtrong Screw: put it into a Furnace, give Fire by degrees, and increaſe it *gradatim* to the higheſt degree, continuing it ſo for a Philoſophical Month, and you will have a Medicine for Tranſmutation of *Copper* into *Silver*, which being try'd upon the Teſt with *Lead*, will prove good at all Aſſays.

VI. *The Preparation of* Luna. *Luna* or *Silver* is ſubtilized, or attenuated, and reduced in manner as is above ſaid of *Sol*. Therefore in all and every part of this Work, do the ſame in its Subtilization, as you did with the *Gold*: And this water of *Luna* is the Ferment for the white Elixir.

VII. Diſſolve *Luna* in its own Corroſive water, which water boil away to a third part; then expoſe it to the Air, or ſet it in Balneo, or in Dung for certain days; ſo have you Oil of *Luna*, and the Ferment for the white Perfected.

CHAP. IX.

Of the Accidents of Metals.

I. *To make* Iron *of a* Gold *colour.*

Take Alum of Melancy in Pouder, Sea-Water; mix them: then heat the *Iron* red-hot, and quench it in the ſame.

II. *To make* Iron *of a* Silver *colour.*

Take Pouder of Sal-Armoniack, unſlack'd-Lime, mix and put them into cold water, then heat the *Iron* red-hot, quench it therein, and it will be as white as *Silver*.

III. *To ſoften* Steel *to grave upon.*

This is done with a Lixivium of Oak-aſhes and unſlak'd-Lime, by caſting the *Steel* into it; and letting it

remain

remain there fourteen days. *Or thus*, Take the Gall of an Ox, Man's Urine, Verjuice, and juice of Nettles, of each alike, mix them; then quench *Steel* red-hot therein four or five times together, and it will become very ſoft.

IV. *To harden* Iron *or* Steel.

Quench it ſix or ſeven times in Hogs blood mixed with Gooſe-greaſe, at each time drying it at the fire before you dip it again, and it will become very hard and not brittle.

V. *To ſolder on* Iron.

Set the Joynts of *Iron* as cloſe as you can, lay them in a glowing Fire, and take of *Venice*-Glaſs in Pouder, and the *Iron* being red-hot, caſt the Pouder thereon, and it will ſolder it ſelf.

VI. *To counterfeit* Silver.

Take Cryſtal Arſenick viij ounces, Tartar vj. ounces, Salt-Peter ij. ounces, Glaſs j. ounce and an half, ſublimate half an ounce: make them ſeverally into fine Pouder and mix them: then take iij. Pound of *Copper* in thin Plates, which put into a Crucible (with the former Pouder *ſtratum ſuper ſtratum*) to calcine, covering it and luting it ſtrongly, let it ſtand in the Furnace for about eight or ten hours: then take it out, and (being cold) break the pot, and take out all the Matter, and melt it with a violent Fire, caſting it into ſome Mold. Then take Purged Braſs ij. pound, of the former metal j. pound; melt them together, caſting in now and then, ſome of the aforeſaid Pouder, after which add half as much of fine *Silver* melting them together, and you have that which is deſired: *Laſtly*, To make it as white as *Silver*, boil it in Tartar.

VII. *Another way to counterfeit* Silver.

Take purified *Tin* viij. ounces, *Quick-Silver* half an ounce, and when it begins to riſe in the firſt heat, take Pouder of Cantharides, and caſt into it, with a lock of Hair, that it may burn in it; being melted put into it the Pouder aforeſaid, then take it ſuddenly from the fire, and let it cool,

VIII. *To purge* Braſs.

It is cleanſed or purged, by caſting into it when it is melted, broken Glaſs, Tartar, Sal-armoniack and Salt-Peter, each of them by turns, by little and little.

IX. *To*

IX. *To tinge Lead of a Gold colour.*

Take purged Lead one pound, *Sal-Armoniack*, in pouder, one ounce, Salt-peter half an ounce, *Sal Elebrot* two drams; put all into a Crucible for two days, then add to it Sulphur of Sol, and it will be throughly tinged.

X. *To purge Lead.*

Melt it at the fire, then quench it in the ſharpeſt Vinegar; melt it again and quench it in the Juice of Celandine; melt it again, and quench it in Salt-water: then in Vinegar mixed with *Sal Armoniack*: and laſtly melt it and put it into Aſhes, and it will be well cleanſed.

XI. *To make Lead of a Golden colour.*

Put Quick-ſilver one ounce into a Crucible, ſet it over the fire till it is hot, then add to it of the beſt leaf-gold one ounce, and take it from the fire, and mingle it with purified Lead melted one pound; mingle all well together with an Iron Rod, to which put of the filtrated ſolution of Vitriol of Sol in fair water one ounce; then let it cool, and it will be of a Gold colour. Diſſolve the Vitriol in its equal weight of water.

XII. *To take away the ringing and ſoftneſs of Tin.*

Melt the Tin, and caſt in ſome Quick-ſilver, remove it from the fire, and put it into a Glaſs Retort, with a large round Belly, and a very long Neck; heat it red hot in the fire, till the Mercury ſublimes, and the Tin remains at bottom; do thus three or four times. The ſame may be done by calcining of it three or four times, by which means it will ſooner be red-hot than melt.

XIII. *To take away the ſoftneſs, and creaking noiſe of Tin.*

This is done by granulating of it often, and then reducing it again, and quenching it often in Vinegar and a *Lixivium* of Salt of Tartar. The creaking noiſe is taken away by melting it ſeven or eight ſeveral times, and quenching it in Boys Urine, or elſe Oyl of Walnuts.

XIV. *To take away the deaf ſound of Tin.*

This is done by diſſolving it in *Aqua fortis* over a gentle fire, till the water fly away: doing thus ſo long till it is all turned to a *Calx*; which mixed with *Calx* of Silver, and reduced, performs the work.

XV. *To make that Tin crack not.*

Take Salt, Hony, of each alike, and mix them: me your Tin, and put it twelve or more times into it, the ſtrain out the Tin, and it will purge and leave crac ing; put it into a Crucible, which lute, and calcine four and twenty hours, and it will be like *Calx* Gold.

XVI. *To take away the brittleneſs of any Metal.*

Firſt calcine it and put it under dung, then do thu when it is red-hot at the fire, or melted, quench it oft in *Aqua vitæ* often diſtilled; or uſe about them Roſ or Turpentine, or the Oyl of it, or Wax, Suet, Eupho bium, Myrrh, Artificial Borax: for if a Metal be n malleable, unctuous bodies will oftentimes make the ſofter; if all theſe, or ſome of theſe be made up wi ſome moiſture into little Cakes: and when the Me yields to the fire, by blowing with the Bellows, we c in ſome of them, and make them thick like mud, or cle then ſet the Metal to the fire, that it may be red-hot burning coals, take it forth and quench it in the and ſo let it remain half an hour to drink in. Or ano the Metal with Dogs greaſe, and melt it with it, for t will take away much of the brittleneſs of it, and ma it ſo that it may be hammered and wrought.

XVII. *To colour Metal like Gold.*

Take *Sal Armoniack*, White Vitriol, Stone-ſalt, V digriſe, of each alike, in fine pouder; lay it upon Metal, then put it into the fire for an hour, take it and quench it in Urine, and the Metal will have the lour of Gold.

XVIII. *To make a kind of Counterfeited Silver of Tin.*

This is done by mingling Silver with Tin melted w Quick-ſilver, continuing it long in the fire, then be brittle, it is made tough, by keeping it in a gen fire, or under hot Embers (in a Crucible) for about tw ty four hours.

XIX. *To ſoder upon Silver, Braſs, or Iron.*

Take Silver five peny weight, Braſs four peny weight, them together for ſoft Soder, which runs ſooneſt.

Take Silver five peny weight, Copper three peny weight, them together for hard Soder.

Beat the Soder thin, and lay it over the place to Sodered, which muſt be firſt fitted, and bound toget

with Wire as occaſion requires: then take Borax in pouder, and temper it like pap, and lay it upon the Soder, letting it dry, then cover it with quick coals and blow, and it will run immediately; take it preſently out of the fire, and it is done.

Note, 1. *If a thing is to be Sodered in two places, (which cannot be well done at one time) you muſt firſt Soder with the hard Soder, and then with the ſoft; for if it be firſt done with the ſoft, it will unſoder again before the other be Sodered.* 2. *That if you would not have your Soder run about the piece to be Sodered, rub thoſe places over with Chalk.*

XX. *To make the Silver Tree of the Philoſophers.*

Take *Aqua fortis* four ounces, fine Silver one ounce, which diſſolve in it: then take *Aqua fortis* two ounces, in which diſſolve Quick-ſilver: mix theſe two Liquors together in a clear glaſs, with a pint of pure water; ſtop the glaſs cloſe, and after a day, you ſhall ſee a Tree to grow by little and little, which is wonderful and pleaſant to behold.

XXI. *To make the Golden Tree of the Philoſophers.*

Take Oyl of Sand or Flints, Oyl of Tartar *per deliquium*, of each alike, mix them well together; then diſſolve *Sol* in *Aqua Regis*, and evaporate the *Menſtruum*, dry the Calx by the fire, but make it not too hot (for then it will loſe its growing quality) break it into little bits (not into pouder) which bits put into the aforeſaid Liquor, a fingers breadth one from another in a very clear glaſs, keep the Liquor from the Air, and let the Calx ſtand ſtill, and the bits of Calx will preſently begin to grow: firſt ſwell; then put forth one or two ſtems; then divers branches and twigs, ſo exactly, as you cannot but wonder to ſee.

Where note, That this growing is not imaginary but real.

XXII. *To make the Steel Tree of the Philoſophers.*

Diſſolve Steel in rectified Spirit or Oyl of Salt, ſo ſhall you have a green and ſweet ſolution, ſmelling like Brimſtone; filter it, and abſtract all the moiſture with a gentle heat, and there will diſtil over a Liquor as ſweet as rain water, (for Steel by reaſon of its dryneſs detains the Corroſiveneſs of the Spirit of Salt which remaineth in the bottom, like a blood-red maſs, and it is as hot on the tongue as fire:) diſſolve this blood-red maſs in Oyl of

Flints or Sand, and you ſhall ſee it grow up in two or three hours like a Tree with ſtem and branches.

If you prove this Tree at the Teſt, it will yield good Gold, which it draweth from the Oyl of Sand or Flints; the ſaid Oyl being full of a pure Golden Sulphur.

XXIII. *To make Oyl of Flints or Sand.*

Take of moſt pure Salt of Tartar in fine pouder twenty ounces, ſmall Sand, Flints, Pebbles, or Cryſtals in fine pouder five ounces, mix them; put as much of this as will fill an Egg-ſhell into a Crucible, ſet it in a Furnace, and make it red-hot, and preſently there will come over a thick and white Spirit; take out the Crucible whilſt it is hot, and that which is in it, like tranſparent glaſs, keep from the Air; after beat it to pouder, and lay it in a moiſt place, and it will diſſolve into a thick, fat Oyl, which is the Oyl of Flints, Sand, Pebbles or Cryſtals. *This Oyl precipitateth Metals, and makes the Calx there more heavy than Oyl of Tartar doth; it is of a Golden Nature, and extracts, Colours from all Minerals; it is fixed in all fires, maketh fine Cryſtals, and Borax, and maturateth imperfect Metals into Gold.*

XXIV. *To melt Metals quickly.*

Take a Crucible, and make in it a lay or courſe of the pouder of any Metal, then lay upon it a lay of Sulphur, Salt-peter, and Saw-duſt, of each alike mixed together, put a coal of fire to it, and the Metal will immediately be in a maſs.

XXV. He that ſhall obſerve the work and reaſon of the Silver, Golden and Steel Trees, may in like manner produce the like out of the Calx of other Metals.

XXVI. *To whiten Silver*, &c.

Silver Veſſels or Inſtruments boiled with Salt, Alum and Tartar, gives them that whiteneſs and clearneſs which they would ſcarcely be brought to by Bruſhing, Pumice-ſtone, or Putty: old ſullied pieces may be brought in a trice to the like fairneſs, by the help of warm *Aqua fortis*.

XXVII. *To Blanch* Venus.

Take *Arſenick* eight ounces: *Sal-nitre*, white Tartar of each two ounces, Borax one ounce: being in fine pouder, Cement *Venus* therewith, by laying thin plates, lay upon lay, after 48 hours, of a Cementing heat (the Crucible being ſtrong, well ſtopt, or covered and lute ſtrongly

ſtrongly) encreaſe the fire, and cauſe it to melt all down together.

XXVIII. *Another way to do the ſame.*

Sublime raſped or granulated *Jupiter* with Nitre into flowers, of which take one ounce: *Mercury* ſublimate as much; diſſolve each in *Aqua fortis*: mix the ſolutions, and evaporate, or draw off to dryneſs. One ounce of this pouder will blanch four or five ounces of *Venus*, without ever Tarniſhing.

XXIX. *Another way to do the ſame.*

1. Take White Wine Vinegar, ſtrong Lye made of Wood Aſhes, ſo ſtrong as to bear an Egg, of each four pounds: Sulphur, Hogs-blood, of each one pound: pouder the Sulphur, mix altogether, and digeſt in an Earthen pot cloſe covered for eight days, then ſtrain it. 2. Take *Venus* eight pounds: melt it and quench it in the aforeſaid Lye: melt it again, and quench again; this do for four times, ſo will the *Venus* be in meaſure prepared. 3. Take white *Arſenick*, Sheeps-ſuet tried, of each a pound: white Lead four ounces: boil all together in a Kettle, continually ſtirring them, till they boil to a pouder, which keep for uſe. 4. Take the afore prepared *Venus*, melt it now a fifth time, to which put of your prepared pouder of *Arſenick*, a little and a little at a time, by degrees, (the *Venus* being firſt melted) ſtirring it with a wooden ſtick, till it is diſſolved in the Metal, then caſt it into a cloſe Ingot. The former pouder will ſerve for eight pounds of *Venus*.

XXX. *Another way to do the ſame.*

1. Take *Arſenick* ſublimed two ounces: common Salt two ounces: ſublime them together three times, then is it fixed. 2. Take fine *Luna* in Filings or Leaves, half an ounce: *Mercury* ſublimate a ſufficient quantity, grind well upon a Marble ſtone; to which add the former prepared *Arſenick*, with ſome fixed *Sal Armoniack*. 3. Grind them well together with Wine Vinegar diſtilled, in which ſome Borax has been diſſolved, then let them dry: being dryed wet them again, with the ſaid Vinegar, and dry again upon a ſoft fire: do ſo five times. 4. Take fine *Luna* one ounce: and as much of the aforeſaid Medicine, *Venus* prepared eight ounces: mix and melt them together: it will be in appearance next to perfect.

XXXI. *To fix* Sal Armoniack *for this Work.*

1. Take *Sal Armoniack* ſublimed to a perfect whiteneſs, put it into a Glaſs Alembick with Head and Receiver, caſting upon the *Sal Armoniack* ſome good diſtilled Vinegar, to overtop it a hand breadth, diſtil upon a ſoft fire. 2. Then put upon it more freſh Vinegar, and diſtil again: this repeat, till the *Sal Armoniack* remains in the bottom; after which let the fire go out of it ſelf, and keep the Oyl cloſe ſtopt for uſe. 3. If you take *Mercury* two ounces, and make it hot in the fire: then drop on it three drops of this Oyl; the *Mercury* will be congealed into a pure Metal: of this, one part will make ten parts of *Venus*, as fair as Silver: the ten parts of *Venus* being firſt melted, and the *Mercury* one part being caſt upon it.

XXXII. *To fix Arſenick.*

Take a ſtrong Lye of Aſhes and Quick-lime, filter it; in which diſſolve Arſenick: then evaporate the humidity by boiling, and the Arſenick will be prepared and fixt.

XXXIII. *To whiten Copper or Braſs ſuperficially, as white as Silver.*

Take Sal Armoniack, Alum, Nitre, of each alike quantity: put to it a little of the filings of Silver refined, or leaf Silver; mix them well together; and put it into the fire, till it be red-hot in a Crucible, and till it has done ſmoaking. Then moiſten this pouder with ſpittle, and rub your Copper or Braſs therewith, and it will be white.

XXXIV. *To Silver Copper, and Braß.*

1. Cleanſe the Metal with *Aqua fortis*, by lightly waſhing it therewith, and immediately throwing it into fair water, or by heating it red-hot, and ſcouring it with Salt and Tartar, and fair water, with a ſmall wire bruſh. 2. Diſſolve ſome fine Silver in *Aqua fortis* in a broad bottomed Veſſel of Glaſs, or Glaſed Earth, then over a Chafing-diſh of Coals evaporate away the *Aqua fortis*. 3. On the remaining dry Calx put water five or ſix times its quantity, or as much as will be needful perfectly to diſſolve it; this water with the like heat evaporate: on which put more freſh water and evaporate again; and if need be, the third time; making the fire towards the latter end ſo ſtrong, as to leave the Calx perfectly dry,

which

which if your Silver be good, will be of a good white. 4. Take of this Calx, common Salt, Cryſtals of Tartar, of each alike in quantity or bulk, not weight: mix all well; then put the Metal into fair water, and take of the aforeſaid pouder with your wet fingers, and rub it well on, till you find every little cavity of the Metal ſufficiently ſilvered over. 5. If you would have it richly done, you muſt rub in more of the pouder; and laſtly, waſh the ſilvered Metal in fair water, and rub it hard with a dry cloth, that it may look ſmooth and bright. 6. This, though done without Quick-ſilver, may laſt ſome years, and when the Silver begins to wear off, may as eaſily be renewed.

XXXV. *To Gild Iron and Steel.*

1. You muſt make your Iron or Steel have the colour of Braſs thus: poliſh the Iron or Steel, then rub it with *Aqua fortis*, in which filings of Braſs have been diſſolved: the ſame underſtand of Silver. 2. An *Amalgama* of Gold and Mercury with which Gilders gild Silver, Braſs and Copper, will not gild Iron or Steel: but thus it may be done; Coat the Iron or Steel with Copper by diſſolving very good Vitriol of Copper in warm water, till the Liquor be ſatiated with the Vitriol; then Immerſe ſeveral times in the ſolution the Iron or Steel, firſt ſcoured till it be bright, and ſuffering it to dry each time of its ſelf; for by this immerſion, being repeated often enough, there will precipitate upon the Iron, enough of the cuperous particles to fill the ſuperficial pores of the Iron. 3. By this ſafe and eaſie way, having overlaid the Iron with Copper, you may gild it as Copper, either by the aforeſaid *Amalgama*, or by the former Section of this Chapter.

XXXVI. *To prove the goodneſs of Sublimate.*

1. Caſt it on the Coals, and if it is good, it will burn with a Blue flame; but if it make any other colour, it is naught, and has Arſenick in it. 2. *Or thus.* Take the Sublimate, and drop thereon a few drops of *Oleum Tartari per deliquium*: if it turns the Sublimate of a deep, Yellow, Reddiſh, or Orange-tawney, it is good; but if not, or it be Black, there is Arſenick in it.

XXXVII. *Another way to fix Sal Armoniack.*

Grind it very well, put it in a Coffin of Paper, which put in a pot full of Quick-lime in fine pouder, that the

paper may be in the midſt of the Lime: then cover the pot well, and lute it cloſe, and put it in a Potters furnace, and it will be fixed.

XXXVIII. *To make an Oyl which gives the Colour of Gold.*

Make a ſtrong Lye with Lime and Tartar calcined with Alcali: in it diſſolve Sulphur in pouder, and Saffron of *Mars*; then put it into the fire, and make it boil till it waxes red: after put all into a Glaſs Bottle or Alembick, with a Receiver: diſtil and take the water; this water cohobate twelve times, or until you ſee a whiteneſs go forth of the Alembick. The ſign being come, all that which remains in the bottom, is a fixt Oil, that which does give the true Colour of Gold, to whatſoever is put into it, and is an excellent Secret in other Chymical Works.

XXXIX. *An Oil of Gold.*

1. Take Sulphur Vive, Nitre, of each a like quantity; diſtil, and it will be white and fixed. 2. After the flame ſublime this fixed Sulphur three times with equal weight of Sal Armoniack, which reſolve again *per deliquium.* 3. Take a ſufficient quantity of this diſſolved Liquor, and caſt it upon a Golden Duckate in flux, and it will become an Oil. 4. This Oil becoming cold will congeal, and one part thereof Tranſmutes fifty Parts of Mercury.

XL. *To make living Silver or Gold.*

1. Take of the Red Lyon (*i. e.* Red native Cinnabar) twelve parts, pulveriſe it well: then grind it with one part of Calx of fine Silver, or purified Gold. 2. Put all into a ſmall bolt-head, ſet it in warm Sand to the neck; luting the neck of the Glaſs very well. 3. Give the firſt degree of fire for a Week: the next Week, the ſecond degree: then the third degree: and the fourth degree, the fourth and laſt Week, to a hiſſing degree; that is, if you let a drop of water fall upon the Sand, it will hiſs. 4. Then let the fire go out, and cut the Glaſs with a Ring: take the Cryſtalline matter, (like a Ring near the neck of the Glaſs) pulveriſe and grind it with its weight of the Calx of Sol or Luna aforeſaid. 5. Paſs the aforementioned four degrees in eight hours to a hiſſing; open the Glaſs as before, and take the ſtarry Crown, which is the living Silver, which augment by digeſtion, with

with a twelfth part of Luna or Sol at a time, as often as you pleaſe, or till you have a ſufficient quantity of living Luna or Sol. 6. Take a ſmall quantity of this living Sol or Luna, and digeſt it in Aſhes, until it changes towards a white or red Earth. 7. Then take this white or red Earth, which Amalgama, with living Silver and Calx: digeſt again in a Glaſs Hermetically ſealed, till it come to perfect whiteneſs or redneſs.

XLI. *To whiten Copper or Iron.*

Take Calx of Silver, grind it with two parts of Calcined precipitate Arſenick, and one part of white precipitate Mercury, imbibe them with water made of Sal-Nitre, Sal-Armoniack and Litharge, of each equal parts; do this, till they have drunk up their weight of the water: put one part hereof on four parts of prepared Copper, or Iron.

XLII. *Another way to do the ſame.*

Take calcined Silver, Tin calcined and diſſolved, of each a like quantity: mix, dry, and cover it with twice as much ſublimed Arſenick.

XLIII. *Another way to do the ſame.*

Take calcined Silver, Arſenick, Sulphur ſublimed and ground, Sal-Armoniack, of each a like quantity: mix, and ſublime all thrice; caſt one part upon ſix parts of prepared Iron or Copper.

XLIV. *A good Dealbation of Venus.*

Take Realgar one ounce: Argent Vive ſublimed three ounces and a half: Tartar calcined an ounce: grind and incorporate, and put them into a Vial with a Neck twelve Inches long, and its Orifice ſo wide as two fingers may enter: lute it, and ſet it over a fire covered with a cloth. Firſt make a gentle fire for a quarter of an hour; afterwards augment the fire underneath, and round about, till the Furnace be very hot and red: When all is cold, break the Veſſel, and take out the Metalline matter. This may eaſily be brought to perfection.

XLV. *Another for the ſame purpoſe.*

Upon Tutia ſublime one part of Mercury ſublimate and two parts of Arſenick ſublimed, until it ſhall have ingreſs. This clearly and very ſpecioufly whitens Venus.

XLVI. *Ano-*

XLVI. *Another for the ſame.*

Imbibe three parts of Mercury ſublimed, and two parts of Arſenick ſublimed with three parts Litharge diſſolved: to theſe eight add other eight parts of Arſenick ſublimed: grind them together, and flux them with Oil of Tartar, ſo may you (with it) whiten prepared Venus at pleaſure.

XLVII. *Another for the ſame.*

Grind Metalline Arſenick with as much Calx of Luna, and imbibe the mixture with water of Sal-Armoniack; dry and grind: afterwards diſſolve Salt of Tartar in water of Salt-petre; with which Oil imbibe the Medicine, and dry it. Repeat this thrice, incerating and drying. This is an admirable thing.

XLVIII. *Another for the ſame.*

Imbibe Jupiter calcined, waſhed and dryed, ſo often with Metalline Arſenick, with half as much ſublimed Mercury, till it flows and enters Venus; for it whitens the ſame (if firſt prepared) glorioufly.

XLIX. *Another for the ſame.*

Upon Tutia, one part ſublimed, diſſolved, and coagulated, ſublime white Arſenick three parts; reiterate the ſublimation upon it four times, that it may have ingreſs. With them adjoin half as much (as the whole is) of ſublimate Mercury, grinding and incerating four times with water of Sal-Armoniack, Nitre and Tartar, of each alike. With this when Coagulated, Cement prepared plates of Venus, and melt, and you will have a very beautiful Metal.

L. *Another for the ſame purpoſe.*

Grind Venus calcined and incerated, to which add Arſenick ſublimed, and half a part of Mercury ſublimed; with which being well ground and mixed, add a little water of Sal-Armoniack, and incerating upon a Marble: dry and ſublime; revert the ſublimate upon the fœces, again imbibing; do ſo three times: the fourth time imbibe with the water of Nitre, and ſublime what can be ſublimed: reiterate this work, till it remains fluid in the bottom. This upon Copper will make a glorious whiteneſs.

CHAP.

CHAP. X.

Of the ſecret Hermetick Myſtery, or great Philoſophick Work.

WE cannot be ſo vain as to pretend to the World that we have attained the knowledge of this great Secret, much leſs ſo to be the Maſter thereof, as to be the inſtructor of other Men: but this we can ſay, we have converſt with moſt Authors that have wrote thereof; we have with a great deal of diligence and ſtudy compared their Sayings one with another; and we have by a long and continued Exerciſe and Practice in the Mineral work, found out not only the natures of Metals, and in what degree of purity they ſtand in one to another; but we have alſo found out many excellent Secrets, of real worth and Value, by which, although we cannot profeſs a knowledge of the great work it ſelf, yet we thereby ſee not only a poſſibility, but alſo a probability thereof in nature (to that man whom it ſhall ſo far pleaſe God to enlighten) and therefore judge we may in ſome meaſure the better undertake to diſcourſe the ſayings of thoſe Worthies, who having attained this Myſtery, thought good in Cloudy and Myſterious terms to publiſh the ſame to the World, that none but the truly worthy Sons of Art might be partakers of the ſame.

In the following lines then, we ſhall tell you what has been told us, and what we do conceive thereof, by the comparing of the Sayings of the moſt excellent Men together, ſuch as were Baſil, Paracelſus, Lullius, Ripley, Bacon, *and others; and this in ſo conciſe a manner, that the Opinions and Judgments of all thoſe Men (though far aſunder in words) may center not only in truth it ſelf, but alſo in the narrow compaſs of the following Sections; the which that we might ſo perform, we expreſs our conceptions of their ſenſe in a language conſonant thereto.*

I. *The Seed of Gold is lodged in all Metals.*

This is apparent from their generation, whoſe origination is *Mercury*, which is indeed immaturate Gold; and ſo remains immaturate in the baſer Metals till a ripening Sulphur, and a meliorating Spirit quickens that ſeminal

minal property lodged in the Womb of impurity. But where that *Sulphur* and *Spirit* is to be found, has hitherto been kept as a ſecret among the true Philoſophers: If I may beg the pardon of thoſe Sons of Art, I would ſpeak once for all: but ſince the *Seal* of the *Philoſophick Silence* puts a bar to my plainneſs, I muſt tell you they are to be found only in the Philoſophers *Sol* and *Luna*; which are extracted out of their Earthly Stars, by the ſole power of the *Philoſophick Mercury*, and the *Spirit* of *Mercury*, as *Baſil Valentine* has truly ſaid.

II. *This Seed of Gold may be quickned or made to live.*

This is done through the death of the firſt matter, and diſpoſition of the ſecond to a reſuſcitation or reſurrection of that innate, energetical, and ſeminal life, and that only by the power of the *Solar* and *Lunar Sulphur* united, through the diſſolving *Philoſophick Mercury:* the Infant then ſeems to be born; and ſo requires nouriſhment; and therefore you muſt feed it with the *Spirit of Mercury*, that it may grow and encreaſe; but you muſt give it in juſt weight and meaſure, leſt you ſuffocate it, and ſo deſtroy the hopeful production.

III. *This Semen being quickned, dilates it ſelf into other Bodies, and tranſmutes them into its own property.*

That is, juſt as the Seminal life of Vegetables tranſmutes or changes that ſuccus or humidity of the Earth, proper to themſelves into their own forms and natures; and ſo of a little Seed there becomes a great Tree: ſo that as the Earth is the Womb out of which ſo ſmall a Seed becomes a great Tree, by the tranſmuting property of the innate Seminal life in the Seed: ſo all the baſe Metals are the Womb unto that ſeminal purity: in which Womb, if the Seed be diſpoſed rightly, there will be as certain a generation and encreaſe; and the purity of the baſe Metals will be tranſmuted into that ſeminal property to a vaſt augmentation. But this growth and encreaſe muſt be made by the nutriment which is given to it, *viz.* the *Spirit of Mercury*: and this *ſeminal purity* is the proper Off-ſpring of *Sol* and *Luna*, produced thro the Power of our *Philoſophick Mercury*, without which nothing can be done: for that is it, which makes alive and quickens the Dead Bodies of *Sol* and *Luna*, and revives their latent Spirit, making them to encreaſe an Hundred thouſand fold.

IV. *That*

IV. *That this may be rightly done, the bodies of the baſe Metals muſt be opened and prepared.*

That is, they muſt be brought into a mortification, that that ſtrong band which has hitherto chained the *ſeminal life*, may be broken, and ſo the *energetick virtue* may be ſet at liberty: this is preformed by the *flying Dragon* who devours all that he comes near: this being done, the *ſemen* muſt be caſt into this mortified Body (impregnated with the ſpirit of *Mercury*) that it may there generate, tranſmute and fix. It is manifeſt then that the tranſmuting ſubſtance is not taken out of the Bodies of the baſer Metals, but extracted out of the moſt pure and perfect; nor can imperfect Bodies be made better by things worſe than themſelves, but only by things better. And therefore the more imperfect, being opened and prepared according to Art, they are made fit to receive the Vital or Living Seed of the more perfect.

V. *This may be done in any of the baſe Metals: but they (like the Earth) yield an encreaſe according to their degrees in purity; ſo that more of the Body of a pure Metal is tranſmuted, than of an impure.*

As barren Earth cannot yield ſo great an increaſe as a fertil ſoil; ſo neither can a baſe Metal yield ſo great an augmentation as a more fine. The baſer Metals yield an increaſe according to the quantity of the *Mercury* which they contain, and that is the ſubſtance which is tranſmuted; all the other ſubſtances are Heterogenous and prove Droſs, which by the fermentative power of our *Solar* and *Lunar Sulphur*, are ſeparated and caſt off, (almoſt reſembling that of Yeſt in Wort:) and as the *Succus* of the Earth yield an encreaſe, and makes the Seed caſt into the Earth to grow; ſo the *immature Mercury* in the baſer Metals feeds our *Solar* and *Lunar Seeds*, and makes them to grow and encreaſe; which by the *Plaſtick power* of this *Seed* or *Sulphur*, is tranſmuted into its own principle, and made to be the fineſt Gold: but this increaſe is according to the goodneſs of the Metal; thoſe which are pureſt, and contain moſt *Mercury*, yield the greateſt quantity in *Tranſmutation*.

VI. *The Bodies of the baſer Metals being fitted, the Semen muſt be caſt into the ſame to generate.*

That is, there is to be a Conjunction of the *Semen* or true

true *Golden Essence*, with the prepared body to be transmuted: now you must be careful you use not the simple body of *Sol* for this *Semen*, for then you will be deceived; the matter in which the Generative Spirit is lodged is another thing: if you bury a whole Tree or Plant in the Earth, that will not generate, and bring forth another Tree, but perish and rot, the seminal or generative vertue and life is clog'd and loaded, and is so ineffective; but if you bury the Seed of the same Tree, you may have another, or more, according to the quantity of Seed sown; the same you must understand in the generation of Metals, and of the Golden work; it is not Gold which will generate Gold, but the Seed of Gold. But how this *Semen* is to be obtained, is also a singular work; for the Body of *Sol* it self must be opened by the help of our *Philosophick Mercury*, which the Philosophers say is a dry water, which will not wet the hands; after which, it must be purified and calcined, and brought to perfection by digestion; and nourished as the Child in the Womb, by the Spirit of the same *Mercury*: And how this *Mercury*, is obtained is another thing: It is composed of the highest and most volatile Spirit, extracted from the Juice of the *Mineral Grape*, conjoyned to the most fix'd and permanent principle of the *Vegetable Grape*, whose Essence is the Root, and Original of the Production of all Mineral, Vegetable and Animal Substances.

VII. *This* Semen *must be Volatile.*

Otherwise it cannot *transute*, for nothing but a *Volatile* Spirit or Essence can dilate and spread it self: a *fixed* matter cannot operate at all, for all *fixed* things are dead, and their life remains in a central state, not fit for *coaction*. This is evident in the *Volatile* Salts of *Vinegar* and *Quick-lime*, which surpass the Art of Man to attain simple; but if you mix a *Lixivium* of *Quick-lime* with *Vinegar*, you may have a large quantity of Salt, and that *fixed*, which was before unattainable. Thus you see out of two *Volatile* things, a third absolutely fixed is produced; and this is the condition of this great work.

VIII. *It must be of an unchangeable blood red colour.*

Otherwise it could not tinge; for were it only yellow, it would create only a faintish kind of green: but this our

our Philoſophick Tincture generates Gold of the higheſt and pureſt nature, and having the deepeſt yellow. The whole Body of *Sol* it ſelf is *all pure Tincture*: only it is bound up, and fixed with Bolts and Bars, as it were; and this fixt property is that which makes it appear only of a faint yellow: its perfect, intire, and moſt *ſublime Redneſs* is ſhut up, ſo as you cannot ſee or behold it. But when theſe Bolts and Bars are broken, and the Doors ſet open (where this vaſt Treaſure lies) by the invincible power of our *Philoſophick Mercury*, and its *ſublime Spirit*: Then you may come to ſee the King in his Triumphs, and behold that never-fading Glory, or *Magiſterial Tincture*; which is able to magnifie it ſelf an *hundred thouſand fold*.

IX. *This* Semen *is made Volatile by the deſtruction of its external form.*

That is, nature muſt be brought to action, that the inactive body may let fall its *Semen*, out of which the Golden Tree of the Philoſophers is produced. The body of *Sol* muſt be broken into Atoms Philoſophically, and opened; that is, the fixity of its external body muſt be removed, which can only be done by the help of our *Philoſophick Mercury*, and the *mighty Spirit of the ſame*, which penetrate into the moſt inward receſſes of its ſubſtance, where the higheſt and richeſt Treaſure is lodged. That therefore being removed which makes it fixed, it then naturally (as it were) becomes *Volatile*; and grows into a Tree of almoſt an immenſe magnitude, in which the wonders of Nature are contained.

X. *This* Semen *is made blood-red by impregnating of it with the ſpirit of* Mercury.

It is neceſſary that there be a common band to conjoin the bodies, which are to be united: as the bodies of the baſe Metals, which are the Womb for this Seed, are to be mortified; ſo muſt that body be, out of which you extract the *Semen*: and as that mortified and prepared body is to be impregnated with the *Spirit of Mercury*, ſo muſt this *Semen*, that there may be as well a ſympathy and likeneſs in Nature, as an unity in Body. But it is to be noted that the *Spirit of Mercury* does not give the great Redneſs to this *Solar Sulphur*: No, that is a Radical Quality innate in *Sol* himſelf: all that this mighty Spirit does, is the turning the inſide outwards,

that

that the internal Quality and Principle may be made obvious to the Eye, and ſo upon occaſion, be brought in to Act, which otherwiſe would lye Dead and Dormant for ever.

XI. *The matter out of which this* Semen *is to be extracted is purely* Sol.

We mean ſimply, and without Metaphor, Gold; for if there be an innate life, power and virtue, in the baſe Metals, why not in this? If Mercury, Lead, Iron, Copper and Silver, contain the Seminal life of Gold, why ſhould Gold be excluded, which is the thing it ſelf? Theſe Metals do each of them contain a ſmall quantity of *Mercury*, but it is immature; but they are all wanting in the *Solar Sulphur*, having a *Sulphur* of their own, which is corrupting, and can by no Art whatſoever be tranſmuted into a *Solar* Nature, each being in their Root of a differing *Species*. And of them all *Luna* contains the greateſt quantity of *Mercury*, which is very pure, and brought by Nature nearly to perfection, *viz.* to *Fixity*: it only wants its pores to be repleat or filled up with a *Solar Sulphur*, for by that alone, the compleat *Weight*, abſolute *Fixity*, and perfect *Tincture* would be given to it, whereby it would be brought into the *Solar Stock*, unalterable in Nature and Quality for ever.

XII. *The* Semen *being caſt into the body prepared for it, is there to be digeſted, till both be perfectly united, whoſe ſimple conjunction is the product of the Golden Kingdom.*

This digeſtion is perfected only by the force of an external fire, conjoined with the inward Seminal life. This is *Projection*, which is indeed by the force of a Culinary fire; but it is to be regulated according to the proper degrees of Nature: when this *Royal Tincture* is put upon any baſe or inferiour Metal, *It melts like Butter, ſpreads over the Surface thereof, ſinks into it, fills its pores, contracts its* Mercury *into one globular body, as it were, and tinges it throughly*; whereby all its *ſcoria*, filth, impurities, and defilements are ſeparated, the pure *Solar Regulus* falling intirely to the bottom.

XIII. *The laſt thing to be conſidered is the multiplication of your Tincture; for if that is wanting, your quantity would be waſted, and ſo your work would come to an end: this is performed by addition of more of the pure* Solar *Body, to the already perfected Tincture.*

For

For the true tranſmuting Property is in the *Tincture*, and *Sol* it ſelf ſtands in need of this *Tranſmutation*; becauſe the Matter which tranſmutes, muſt be an hundred thouſand times finer, more pure, and more exalted than the moſt fine Gold; for if it was not much higher and finer than Gold, it could never tranſmute other Metals into Gold, but only be as Gold, and be able to do no more than Gold can; and ſo, by mixtion with other inferiour Metals, would it ſelf become much worſe than it was before, according to the quantity of the Alloy which is mixed with it, and would only make a baſe Mixture, not a Tranſmutation. Therefore, that you may *multiply* your *Tincture*, you muſt add to it ten parts of pure fine *Sol*, and nouriſh it with the *Spiritus Mercurij*, in proportion to what it can receive, digeſting in a gentle Fire, till ſuch time as you ſee the ſigns of perfection appear; and by this means you may continue and augment your Tincture, *ad infinitum*, even for ever.

CHAP. XI.

A Proceſs of the ſaid Grand Elixir, *from an Old* Hermit.

I. TAke *Mineral Quick-ſilver* iij. pound, *viz.* made neither of *Lead* nor *Tin*, and cauſe an Earthen Pot to be made, well burn'd the firſt time, glaze it all over, except the bottom, the which anoint with *Hogs Lard*, and it will not glaze.

II. This is done, that the Earth of the *Quick-ſilver* may ſink into the bottom of the Pot, which it would not do being glaz'd, nor become Earth again: This Pot muſt be made a good foot long, of the faſhion of an Urinal, with a Pipe in the midſt of it.

III. The Furnace muſt be made on purpoſe, that the Pot may go in cloſe to the ſides of the Mouth of the Furnace. Set on the Pot a good great Cap or Head, with its Receiver, without luting of it.

IV. Give it a good Fire of Coals, till the Pot is all on fire and very red; then take the Fire out quickly,

and put in the *Quick-ſilver* at the Pipe, and, with as much haſte as you can, ſtop it cloſe with Lute.

V. Then will the *Quick-ſilver*, by the heat and force it finds, both break and work; a part thereof you ſhall ſee in the Water, as it were a few drops; and a part will ſtick to the bottom of the Pot in black Earth, and ſo let the Pot cool within the Furnace, as it is; then open it, and you ſhall find the *Quick-ſilver* in it all black, which you muſt take out and waſh very clean, and the Pot alſo.

VI. As for the Water which does diſtil out of it, put it aſide, or caſt it away; for it is nothing worth, becauſe it is all Flegm. Set the Pot into the Furnace again, and make it red-hot; put in the *Quick-ſilver*, lute well the Pipe, and do as you did the firſt time; and do this ſo often, until the *Mercury* becomes no more black, which will be in ten or eleven times.

VII. Then take it out, and you ſhall find the *Mercury* to be without Flegm, but joined with Earth, of which two Qualities it muſt be freed, being Enemies to Nature: Thus the *Quick-ſilver* will remain pure, in colour Celeſtial, like to Azure, which you may know by this ſign, *viz.* Take a piece of *Iron*, heat it hot, and quench it in this *Mercury*, and it will become ſoft and white like *Luna*.

VIII. Then put the *Mercury* into a Retort of Glaſs, between two Cups, ſo that it touches neither bottom nor ſides of the Cups, and make a good Fire under it, and lay Embers on the top, the better to keep the heat of the Fire; and in 40 hours the *Mercury* will diſtil into a ſlimy Water, hanging together, that it will neither wet your Hands, nor any kind of thing but Metal only.

IX. This is the true *Aqua Vitæ* of the Philoſophers; the true Spirit ſo many have ſought for; and which has been deſired of all Wiſe Men, which is called the *Eſſence*, *Quinteſſence*, *Powers*, *Spirit*, *Subſtance*, *Water* and *Mixture* of *Mercury*, and by many other the like Names, without ſtrange things, and without offence to any Man.

X. Save well this precious Liquor, or Water, obſcured by all Philoſophers, for without it you can do no good or perfect Work; let all other things go, and keep this only; for any one that ſees this Water, if he has any Practice

Practice and Knowledge, will hold to it, for it is precious and worth a Treaſure.

XI. Now reſteth to make the *Soul*, which is the perfection of the *Red*, without which you can make neither *Sol* nor *Luna*, which ſhall be pure and perfect: With this *Spirit* you may make things apparent and fair; yea, moſt true and perfect: All Philoſophers affirm, that the *Soul* is the Subſtance, which ſuſtaineth and preſerves the *Body*, making it perfect as long as it is in it.

XII. Our *Body* then muſt have a *Soul*, otherwiſe it would neither move nor work; for which reaſon you muſt conſider and underſtand, that all *Metals* are compounded of *Mercury* and *Sulphur*, Matter and Form: *Mercury* is the Matter, and *Sulphur* is the Form. According to the pureneſs of *Mercury* and *Sulphur*, ſuch is the Influence they aſſume.

XIII. Thus *Sol* is ingendred of moſt pure fine *Mercury*, and a pure red *Sulphur*, by the Influence of the Sun; and *Luna* is made of a pure fine *Mercury*, and a pure white *Sulphur*, by the Influence of the Moon.

XIV. Hence it is that *Luna* is more pure than the other Metals, which have need of cleanſing; being cleanſed, they need but only the pure *Sulphur*, with the help of *Sol* and *Luna*. *Sulphur* is the Form of *Sol* and *Luna*, and the other Metals; their other parts are groſs Matters of *Sulphur* and *Mercury*.

XV. Husband-men know many times more than we do: They, when they Reap their Corn growing on the Earth, they gather it with the Straw and Ears. The Straw and Ears are the Matter, but the Corn or Grain is the Form or Soul.

XVI. But when they Sow their Corn, then they Sow not the Matter, which is the Straw and Chaff, but the Soul or Form, which is the Corn. So, if we will Reap *Sol* or *Luna*, we muſt uſe their Form or Soul, and not the Matter.

XVII. The Form or Soul is made by God's help, after this manner. You muſt make a good Sublimate, that is ſeven times ſublimed; the laſt time of the ſeven you muſt ſublime it with *Cinnabar* without *Vitriol*, and it will be a certain *Quinteſſence* of the *Sulphur* of that *Antimony*.

XVIII. When this is done, take of the fineſt *Sol* j. ounce or of the fineſt *Luna* as much; file it very fine; or elſe take leaf Gold or Silver; then take of the aforeſaid Sublimate iiij. ounces; ſublime them together for the ſpace of ſixteen hours; then let it cool again, and mix them all together, and ſublime again; do this four times.

XIX. And the fourth time it will have a certain Rundle, like unto the Matter of the white Roſe, tranſparent and moſt clear as any orient Pearl, weighing about v. ounces. The Sublimate will ſtick to the brims and ſides of the Veſſel; and in the bottom it will be like good black Pitch, which is the Corruption of *Sol* and *Luna*.

XX. Take the Rundle aforeſaid, and diſſolve it in moſt ſtrong diſtilled Vinegar (*i. e.* Spirit) two or three times, by putting it into an Urinal, and ſetting it in *B. M.* for the ſpace of three days, every time pouring it into new Vinegar, (*i. e.* Spirit) as at the firſt, till it be quite diſſolved; then diſtil it by a Filter, and ſave that which remains in the Pot, for it is good to whiten Braſs.

XXI. That which paſſed the Filter with the Vinegar, ſet upon hot Aſhes, and evaporate the Moiſture and Spirit of Vinegar with a ſoft Fire, and ſet it in the Sun, and it will become moſt white, like unto white Starch; or red, if you work with *Sol*, which is the *Form*, *Soul* or *Sulphur* of *Luna* and *Sol*, and will weigh a quarter of an ounce, rather more than leſs; ſave that well.

XXII. Take in the name of God, an Urinal half a foot high; and take of the firm Body v. ounces; of the *Soul* or *Sulphur* of *Sol* or *Luna*, a quarter of an ounce; and of the Spirit iv. ounces; put all of them into the Urinal, and put on its Head or Cover, with a Receiver well cloſed or luted.

XXIII. Diſtil the Water from it with a moſt ſoft Fire, and there will come off the firſt time almoſt iij. ounces: Put the Water on again, without moving the Urinal, and diſtil it again, until no more Liquor will diſtil; which do ſix or ſeven times, and then every thing will be firm. Then ſet the ſame Urinal in Horſe-dung ſeven days, and by the virtue and ſubtlety of the heat, it will be converted into Water.

XXIV. Diſtil

XXIV. Diſtil or filter this Water with ſtripes or ſhreds of Woollen Cloth; a groſs part will remain in the bottom, which is nothing worth; all that which is paſſed through the Filter congeal, which will be about iv. or v. ounces; and ſave it. When you have congealed it three times, melt x. ounces of moſt fine *Sol* or *Luna*, and when it is red hot, put upon it iv. ounces (ſome ſay xiij. ounces) of this Medicine, and it will be all true and good Medicine.

XXV. Likewiſe melt *Borax* and *Wax*, *ana j.* ounce, to which put of the former Medicine *j.* ounce; put all theſe upon *Mercury*, or any other Metal, iij. pound, and it will be moſt fine *Sol* or *Luna*, to all Judgments and Aſſays. Thus have I ended this Proceſs, in which, if you have any Practice or Judgment, and know how to follow the Work, you may finiſh or compleat it in forty days.

This Proceſs is under a Vail, yet there is indeed much to be learnt out of it.

CHAP. XII.

Of the Qualities of the Philoſophers Stone.

I. OF what Qualities the Philoſophers Stone conſiſts, I hold it neceſſary to make a ſhort and true Information, though one or more may know it already; however, the Conſequence is this: If this thing be rightly and plainly underſtood, then one finds himſelf near the Scope, and can eaſily judge, whether the Matter handled, and the imagined Subject contain all the neceſſary Requiſites, you will not then go to work after an unskilful manner, and commit it to Succeſs.

II. He that hath not the following Properties together in one Maſs or Centre, or only gueſſeth that they are there, is truly far from the mark, and Shooteth at the white, which he doth not ſee, and will have the leſs hope of it.

III. Therefore let none dream, that he hath accompliſhed the Art, or that he can compaſs the Stone in a

short time, or any particular, whilst yet he doth not know, what Qualities or Properties the Stone or the particular Tincture must have; if he knoweth neither the beginning nor middle, how can the end then be known to him?

IV. Those could best testify of it, who have seen a Tincture with their Eyes, and have felt it with their Hands; and do know that this noble Pearl is not a vain and foolish work, as many ignorant Persons suppose.

V. It is such a work, which transmuteth really all inferior Metals into pure or fine Gold, or Silver, it suddenly penetrates all the parts of Mans Body, and restoreth the defects of Nature, and brings Health again, in such manner, that Man may rather be amazed at, than only admire it.

VI. And hereby it is manifestly seen in the transmutation of Metals, how *the Tincture is a transcendent fixed substance*, which can far less be destroyed by any Element, than Gold, but the Tincture in it self is the transcendently perfect Essence of Gold; nor is there any thing comparable to this precious Jewel, in respect of the ingress into other Metals.

VII. And though many fluid things are in Vegetables, as Wax and Oyl; in the Minerals, *Sal Tartari*, *Sal Elebro'*, *Mercurius Sublimatus*; in the Metalline Bodies, Tinn, Lead, Wismuth, Antimonia, Zinick, and the like; yet all these are not comparable to this not in the least degree.

VIII. A likeness, simile, or example, may be given thus: if you melt one pound of Lead, and put into it one dram of Gold or Silver, the Lead receiveth that Body so, that afterward in the least quantity of that Lead, this dram of Gold or Silver can be found estimated in the proof.

IX. Now if this can be done so suddenly and easily in a mean or base Metal, what wonder is it, if the eternally fixt and fluid Medicine should do the like? On the other side, let Men open their Eyes, and see, whither the Salts, Tartar and Mercury, or the mentioned Minerals, penetrate so, and mingle with the Bodys radically.

X. Though all the requisites be in this Tincture, yet if it wanted only the ingress, then surely all hopes would be lost: Therefore those deal foolishly, which intend to

coagulate

coagulate the Spirit of Vitriol, Terræ, &c. with all ſorts of Salts to a fixt Maſs.

XI. And though a fixation ſhould appear to them, yet it would not be equal to one atome, in compariſon of our Salamander, and they will ſtill want the moſt neceſſary thing, namely the ingreſs.

XII. Though other things, as Wax and Butter, be fluid, yet their fluidneſs is not comparable with the fluidneſs of Metals, the one mingleth not with the other, but ſwims on the top, burns away, evaporateth, and turneth to nothing.

XIII. If none could meet with ſuch Directions or Inſtructions in the Writings and Books of the truly Learned in this Art, out of what Kingdom the true and only Medicine ſhould be made, or taken, yet he may perceive it out of this Diſcourſe: but the Books of all Philoſophers are full and clear to the ſingle Eye, which inform, that like muſt be aſſociated or joyned unto its like.

XIV. Again, this noble Pearl muſt have a ſaltiſh penetrating nature, and be endued with all the ſtrengths of the four Elements.

XV. If it ſhall diſſolve in any Liquor, and in a moment divide it ſelf in the Humane Body into all the Arteries and Blood, then it muſt not be likened unto any thing in the World, but only unto Salt or Sugar.

XVI. Our *Subjectum* muſt be colder than Ice, and yet hotter than Fire, becauſe it muſt temper the extream hot Bodys of *Mars* and *Venus*, and tranſmute them into the moſt like proportioned ſubſtance of Gold: and again, it muſt heat the moſt cold Bodys of Lead and of Silver, ſo as that they may never return to their former ſtate again.

XVII. Now, though this may ſeem incredible to moſt, that in one only ſubſtance all the qualities of the Elements ſhould meet together, and be joyned together in one tye or covenant: yet it is not ſtrange to thoſe, who ſee how their matter or ſubſtance containeth all things: and how it is a Water and yet no Water, *how the Earth ſwimmeth on the Water*, how the Earth is Water and no Water.

XVIII. And alſo, how the Air is our Maſſa, and how our Earth is a meer Fire, according to *Hermes* his ſaying,

when he ſaith, the Wind or the Air doth carry it in its Belly.

XIX. Laſtly, in this our moſt noble Bird or *Phœnix*, there are all the Heavenly and Earthly Vertues or Strengths, becauſe it is generated out of the moſt Volatile and the moſt fixed ſubſtance.

XX. Heaven is the Father, and the Earth is the Mother, which are revealed, when Heaven joyneth with the Earth, and our Solar and Lunar Child is Born.

XXI. But many will ſay to this, as unlikely as Heaven can be brought to the Earth, ſo unlikely is this Philoſophers Stone to be had: As the one is impoſſible, ſo is the other a Deceit and Lye.

XXII. But to anſwer this in ſhort: we have no need of the viſible Heaven and Earth, but of their Powers. For as the Moon worketh on Man, Beaſts and Vegetables, by her Power, and is not preſent or near them: ſo is it here alſo.

XXIII. The Moſt High hath repleniſhed our Heaven with all Heavenly Powers, and our Earth with all Earthly Powers, ſo that no more need be ſaid hereof. Yet we ſhall ſpeak further of this matter in the proſecution of our Diſcourſe: though now we let it reſt, ſhewing by this little in few words, the Properties of the true Philoſophick Stone of the Ancients.

XXIV. Others ſee whither their Operations be uniform or no, and whither their Principles be ſo too; that they be not impure or unſerviceable to the work they deſign them for, which requires the higheſt homogenity and fixity.

XXV. He that taketh exact heed to himſelf here, and pondereth all well which we ſhall Diſcourſe, he may judge firmly and truly of any Proceſs which he hears, whether it be true or not, and whether the deſired and hoped for end may be obtained or no.

CHAP. XIII.

CHAP. XIII.

Of the matter of the Philoſophers Stone.

I. SEcondly, what is the matter of the Stone? Here you may remember, what innumerable opinions there are concerning this one point. Some think becauſe this Medicine is Univerſal, therefore it is and it muſt be found every where, and can be made out of every thing, elſe the name cannot be proper for it.

II. Another defends the contrary: This they do becauſe they have not the knowledge of the matter, and this is one of the greateſt Errors: For if Men fail or err in this point, then ſurely they err in all the reſt.

III. It is remarkable, and I teſtify it upon my Conſcience, as often as I have diſcourſed with ſeveral Men, tho' profoundly Learned, yet I heard them talk of this point variouſly and the clean contrary way, and I could never perceive of any, that they were within the pale of Truth.

IV. Every one imagined to himſelf a matter, which he defended afterward in the beſt manner; at laſt I heard ſo much, eſpecially of the moſt skilful in this noble work, that nothing can be reported from their Opinions: much leſs, becauſe it is Univerſal, they thought no one thing could be preferred before the other.

V. Here lyeth the cauſe of the great difficulty in attaining unto this high Secret, as alſo by reaſon of Mans unthankfulneſs and evil concupiſcence, the one confounding the other, as it was at the Building of the Tower of *Babel*, where the one hindreth the purpoſe and intention of the other; ſo that the Myſteries of this Science cannot be revealed unto them.

VI. Greatly was this point darkned, but may eaſily be reſolved, yet hardly believed: the moſt are of opinion, he that nameth the matter by name, in this work, is the greateſt Seducer; yet *Theophraſtes* and others did not ſtick to nominate the Matter or Subject to be the Minera Solis, Lunæ et Saturni.

VII. Though

VII. Though they uſed herein no ambiguitie, yet ſo many judgments were given upon their Writings, that all believed, that *Theophraſtus* and *Baſilius* had never the true Univerſal Tincture.

VIII. But ſuch Calumniators were never in the Philoſophical School, nor underſtand any thing of their Myſterious Writings, which is the reaſon why they cannot imagine how the one is three, three five, and five one; or how two are four, and four are two.

IX. Nor will they grant that this *Secretum* is the work of Women, and Childrens Play; nor that the Poor may attain unto it as well as the Rich.

X. It would be prejudicial to their deep Intellect, if a poor ſimple Creature ſhould indeed ſhew the work done with the Hand, before them; whereas they think not that God diſtributeth his Gifts wonderfully, even as it pleaſes him.

XI. In brief, he that will undertake to open the Gate of Myſteries, with the naked Intellect, without the illumination of Gods Holy Spirit, and without an induſtrious, careful working, will abſolutely miſs of his end.

XII. And here all Underſtanding and Reaſon is defective, and there is none but muſt ſtand amazed, that God ſhould have ſhut up, lockt in, and hid ſo deep, this moſt noble Jewel next to the Soul, and that in ſo mean a Subject, diſeſteemed by all Men.

XIII. Therefore avoid or meddle not with any Vegetables, nor yet with Minerals, ſo may you find that to be true, which *Theophraſtus* ſaid, that there is found in many places in *Europe*, one Mineral in the Bowels of the Earth, which in the outſide is marked with the figure of the *Macrocoſme*, and is in the beginning *Aſtrum Sphæræ Solis*, or *the Tree of Gold*, or *its Root*; which breaketh or groweth nigh unto the Gold Oar.

XIV. This carrieth its Seed in abundance about it, and is *Saturnine*, becauſe it cometh from the Heart of *Saturn*, and may well be called *Senex*, which the moſt Ancient and moſt Judicious Philoſophers, call the Father of *Saturn*; and have marked it with the greateſt and moſt wonderful Sign, *viz.*

XV. They gave it a round circle, which containeth all things, and a direct upright line, and a Diameter coming out of the Center, and then with a Croſs, which ſheweth

ſheweth very Great and Myſterious things, as it is ſeen in this annexed Figure. ☿

XVI. The Greateſt Potentates and Monarchs have uſed this Sign, as a means of their Felicity and Dominion. For this cauſe, *Theophraſtus* calls it *Signum Majoris Mundi*, and *Baſilius* calls it *the round Ball of the Goddeſs Fortune*, in which Gold, Life, and the Reſurrection dwelleth, bringing the Salvation of Truth to the Man of God, and is indeed all in all; the which every Philoſopher may take into further conſideration.

XVII. But I teſtify, that this Sign is at once, the Magiſtery, beginning, middle and end of the whole Work: and through it, is it diſcovered and publiſhed; and it is that in which all, what Men ſeek for, and deſire to know, is typified and contained.

XVIII. Now leſt any be yet ſcrupulous, that I keep Men ſtill in darkneſs, and my declaration is not ſufficient; and that ſeeing the work is Univerſal, there are of neceſſity more parts belonging to it: for this cauſe, I direct both the one and the other to Philoſophers and their Sayings.

XIX. And chiefly to *Flamellus*, who holds the Subject to be not only one matter, but ſheweth alſo, what may be drawn from it, when he ſaith: *Unum habetur in hoc Mundo Metallum, in quo Mercurius noſter ſeu æqua hæc noſtra abunde reperitur.* Tabul. paradiſi. Know ye, that there is but one thing in all the World, out of which our Art is made.

XX. *Sendivogius, in Tract. de tribus Principiis:* There is but one matter in the whole World, through which, and out of which, the Philoſophers Stone can be made.

XXI. Though he nominateth two things, as *Sulphur* and *Mercury*, yet know, that two things may be but one, as when I ſay, Spirit and Body is but one, it is rightly ſaid; for the Body was a Spirit at firſt, and by the *Archeus* was coagulated into a Body.

XXII. Therefore Philoſophers deſire but one matter of one Subſtance, when they ſay, our Body and our Spirit, our Father and our Mother.

XXIII. And as Husband and Wife are one Body, one Fleſh and Blood, and from one Seed, yet unlike to the Eye and Generation, and yet are but one; ſo is the Spi-

rit

rit and the Body one, though they be not like one to another in the outſide.

XXIV. Hence it follows, that the firſt beginning of this magiſtery, is of one being, out of two Subſtances, of a fix and unfix; that the one is the Seed, and the other is the Womb, the one is the red fixed Man, and the other the white Woman; the one is the Mercury, the other is the Sulphur.

XXV. And to make it clearer, under the Name of the Flying Eagle; all that muſt be underſtood, which Philoſophers have called their *Aqua Sicca*, *Mercurii*, *Fume*, *Acetum Acerrimum*, *Aqua Mercurialis*, *Spiritus Mercurii*, *Mare ſiccum*, *Avis Hermetis*, &c. thereby to deceive the Ignorants.

XXVI. But to inform the Underſtanding, this Volatile Spirit is of a noble quality, all in all, and deſerves to be called *Spiritus Univerſalis Mundi*; but among the Fix, there remained only the name of *Corpus Solis*, becauſe it is adorned with the moſt equal proportion of all the Elemental Powers and the ſtrongeſt Strength, and containeth perfectly as in a Center, the property of all things.

CHAP. XIV.

A continuation of the former Diſcourſe.

I. OF this one Body many things may be ſaid, becauſe it preſenteth it ſelf alſo, ſo that one, (unleſs he be ſenſeleſs and ſtupid) muſt admire it as a noble and principal Agent, and a great work of God.

II. Beſides the *Corpus Solis*, it is endued with ſuch fixity, that it is only for it ſelf firm, and keeps ſo; and it is known by experience, it cannot communicate the leaſt of its fixedneſs to its Brethren.

III. Beſides it is known, what thoſe have effected, which divulged ſo many Deſcriptions how the *Aurum Potabile* ſhould be made; and to ſay nothing, how that Philoſophers have quite rejected common Gold. My intention is this, to make known, firſt, what kind of Gold

is meant, and afterward to diſtinguiſh, what the Gold is in it ſelf and its Matrix, then the ſaid Queſtions will eaſily be anſwered, and a new regeneration be granted.

IV. I have ſpoken afore of two Subſtances in one being in one only matter, and imparted the ſame faithfully, the one I called *Saturnine*, or after our Language, *Lead Oar*, *Lead Glaſs*, *Minera Philoſophica Saturni*, or *magneſia Plumbea*.

V. The one is as the other, yet the one is more nigh, more excellent, then the other, very ſubtil, penetrating, fluid, volatile, poyſonous, metallin, animal, mineral and vegetable, the principle of all things; out of which are generated Gold and every Metal.

VI. It is a Fume, and a Medicament of all Medicaments, like Sealing Wax, whatever you print it upon, you may have that print again.

VII. This is the true Principle of the one *Mercurius Catholicus Mineralis*, and *Genitor* of *Sol*, and the Mother or Womb of the Gold in the ſtrength unremoved, on which Nature wrought little, becauſe the little Grain of the Fix'd is yet very ſmall in it.

VIII. This is the *Minera*, which is eſteemed for the higheſt and greateſt Secret, becauſe it hath the qualities of all things, and can be turned into Water, Fire, Air and Earth; yea, the Eſſences of all Elements are together in it.

IX. But as the Seed of Gold is ſo high and great, ſo is the Matrix much higher; for without that the Gold could not be regenerated, renewed, opened and ſhut again; and made perfect after a tranſcendent way, as *Baſilius* atteſteth, *viz.*

X. That it is impoſſible to make Gold without this Potable Spirit, much leſs can be prepared the Sulphur of *Sol* with any Corroſive: for this Water excels in its ſtrength, as well the great Ocean, becauſe the Eſſence of the Water is in it, as alſo the Fire, in which is the greateſt and ſtrongeſt Fire, and is fitly enough compared with *Cerberus*.

XI. He ſaith further, that this Spirit is a ſupernatural, volatile Fire, Spirit; for which cauſe, it was called the Sulphureous living Water, which muſt exalt the Body of *Sol* into a Medicine, ſo as to get a tranſcendent power for to tinge his Fellows.

XII. And

XII. And that never any, either univerſal or particular Tincture, nor other Univerſal Medicines can be obtained, without this Sulphureous, Spiritual Being, or *Spiritus Mercurii*.

XIII. For no Natural, Heavenly or Earthly Fire can burn the Body of *Sol*, without this Sulphureous, Living Fire of ours, there is no Air ſo ſubtil and pure, which can carry our Body in its Belly, as this Air can.

XIV. Not any Earth ſo qualified, out of which this Lyon may be generated, as ours, becauſe it is with the Gold, in reſpect of its principle, uniform, and of one being; of which more ſhall be ſpoken hereafter in the Preparation.

XV. The matter of the Solar Body, which is as the Fixt is of a very equal affinity with the Volatile: For the fix'd Blood with the Red Lyon is drawn from the unfix'd Blood of the Green Lyon. Beſides or without this, ſaith *Baſilius*, it is impoſſible to obtain a new Generation.

XVI. Theſe two Subſtances muſt be, and can be reduced again into one, by the help of *Vulcan*, ſo that they never can be ſeparated again; and herein lyeth the greateſt and higheſt Maſterſhip and Science.

XVII. Many have tormented the Gold very ill, making uſe of a Menſtruum which was not right, and was incongruous, neither did they uſe the legitimate Matrix; hence it was impoſſible for them to looſen or break its faſt, firm Bands, and to bring it to its firſt Being.

XVIII. Many have brought the *Spirit* of *Salt*, *Urine*, *Wine*, *Sal Armoniack*, *Vitriol*, *ros majalis*, and the like, to make it a calcined Body, or thought to open them with common Mercury, but they miſſed it; though they knew, that *Aurum* is the *Leader*, *Princeps* and *Moderator omnium luminum*, *et corporum reliquorum*; and that its preparation muſt be hit with a true diſſolution, elſe no Tincture can be obtained.

XIX. Yet they were ſtill kept ignorant of the noble *Menſtruum*; ſo that they begot inſtead of Legitimate Children, meerly Baſtards.

XX. But if they had known the Prima Materia, *viz.* the one matter of Gold, they would not have miſſed of the only diſſolving water, as the firſt matter of the Gold. He that doth not know this, can never attain to any true preparation of Gold, or of the Philoſophick Tincture;

but

but it is like to a hidden Treaſure kept under Lock and Key, he that hath not the Key, muſt let the Treaſure alone.

XXI. I muſt needs confeſs, that I my ſelf have quite deſpaired of ſuch a dry *Menſtruum*, but by the Grace of God I got an illumination, to diſcern the meaning of the Philoſophers dark Sayings, having conſidered that which *Baſilius* taught, Saying.

XXII. If thou canſt not find thy *Menſtruum*, do not deſpair therefore, but call in to thy help the Power and Virtue of *Saturn*, he will not leave thee unreſolved, but he will put an Offering into thy Hand, of a high glittering *Minera*, which is grown out of the firſt matter of all Metals.

XXIII. If I had not committed ſo many Errors in Chymick Proceſſes, and wrought in vain, I had not yet attained thereunto: for it is not a ſmall matter to get the *true Bird* of *Hermes* truly and ſerviceably out of the *One Being*.

XXIV. Therefore that objection is to no purpoſe, that many wrought in vain upon Gold, which muſt be imputed to their ignorance, and not to the poſſibility.

XXV. But that there ſhould be no more ſtrength and vertue in Gold, than it ſheweth in its ſubſtance, and that it could impart nothing to its Brethren in its ſubſtance of his precious Blood, is not to be believed; for otherwiſe the Regeneration, Multiplication, yea, and the Tranſmutation alſo it ſelf would have been unknown.

XXVI. But as this cannot be denied, ſo is it poſſible to prove, that Gold is the true Seed of our Tincture.

XXVII. If any ſhall deny this, I could wiſh to ſee him, that could defend and demonſtrate a more congruous and fitter matter.

XXVIII. Is it not palpably ſeen, how groſly thoſe did err, which ſought for this moſt fixed Being out of an other Kingdom, and preferred the ſame before this noble Body? Such could reap nothing but Shame and Diſgrace, who took in hand ſuch mean and corruptible poyſonous things, far differing and far diſtant from the pure, incorruptible and permanent Nature of Gold.

XXIX. They ſhould have conſidered the Philoſophers Sayings, as *Sendivogius in 7. Tract. Though thou hadſt the*

firſt

firſt matter of Metals, according to the judgment or ſaying of Philoſophers, yet were it impoſſible for thee to multiply the ſame central Salt without Gold.

XXX. Item theſe Verſes.

Take pure Gold refin'd,
Extract its Soul or Mind.
Corrode not, but diſſolve,
Its Tincture you involve.
Its bands of ſtrength untye,
And make the Dead to Dye.
Its Body thus deſtroy'd,
Life comes to be enjoy'd.
But through our hidden Fire,
Obtained is your deſire.

XXXI. And if *Baſilius* had known another Ferment, he would not have bid thee in his firſt Key to make the Purple Cloathing out of Gold, but perhaps out of Mars or Venus. For if you will meliorate the Fruits of the Tree of Gold or Silver to this inoculating, there muſt not be taken any other twigg, but a Solar or a Lunar one.

XXXII. Gold alone 'tis true, as alſo all the Metals, are in themſelves dead, ſo that it ſeems as if the Philoſophers had rejected it, and recommended the Philoſophical one; but a faithful Follower muſt ſee here, with open Eyes, and learn to underſtand, that indeed common Gold is dead, and ſo long it is to be rejected, and and is unſerviceable.

XXXIII. But when it ſhall be radically diſſolved with the Philoſophical Spirit, or Spiritual Gold, and reduced to its *Prima Materia*, and then raiſed with its *Anima glorified* and *tranſcendently perfected*; then it may be ſeen whither it will ſhew it ſelf dead or living.

XXXIV. In the mean time let none ſeek for any other Ferment beſides this, to the end, that the truth of that Saying may ſtand firm, what is ſowed will be reaped again; and that there is not found in all the World a more fixed Sulphur, (Namely, unto Fermentation) than there is in the Bodies of *Sol* and *Luna*

CHAP. XV.

CHAP. XV.

Of the preparation of the Philoſophers Stone.

I. COncerning the Preparation, I will take away from the Reader really all his doubts, and not talk by hear-ſay, as others have done: but I will make known boldly, not Opinions, but an experimental Knowledge, having put my Hands to the Work.

II. I did hope, that I ſhould be joyfully recompenſed for my pains, to the end, that my Fellow Searchers in Nature ſhould effectually reap comfort thereby; and herein I was not deceived: but yet at firſt this noble Work was cut off and brought to nought; ſo that there was no more left to me, but only a dark or clouded Direction, and a Draught or Ocular demonſtration.

III. But purſuing Nature in her own way, I ſay and mean by this way, I had cauſe to expect a far greater and abounding reward, then I could have from my Sophiſticated Labours; and accordingly it fell out ſo to me.

IV. For although the true deſired Fixity was not yet at hand, yet ſome ſelect pieces in the Projection ſhewed an eminent poſſibility, beſides what I had taken notice of at the diſſolution of Bodies in the changing of Colors.

V. Therefore will I communicate now the practick part faithfully, and more largely or plainly, than ever any hath done before me; and will omit nothing of the Manuals which Philoſophers, as is apparent, paſs by in ſilence.

VI. As you find in *Bernhardus*, where he ſaith; that he knew many which knew the matter of the Secret, but they knew not the manner of the Preparation.

VII. Therefore let every one take heed and have a care, that he be not ſeduced by Sophiſters, much leſs let him fix any thought on forcible Fires, Aqua Fortis, or other ſtrange things, as to make his beginning thereby to this Miſtery; for all ſuch things will be in vain.

VIII. Let him firſt be acquainted with the right matter, and conſider the beginning, then he will know how

to proceed, and learn experimentally how he muſt finiſh the Work.

IX. The ſame known and nominated matter is found in many places: and it is well ſaid of it; that it, or the Stone, which is flung at the Cow, is more worth than the Cow.

X. In the ſame is the true only Philoſophers Mercury, in form of a moſt fair, moſt pure and white Pouder, which is called the white Dove, and the Doves of Diana, *Anima Saturni*, and the *Prima Materia Metallorum*, which is drawn from the *Secunda*, of an excellent volatile, penetrating Subſtance.

XI. So that according to its quality, it ſoaks in as Oil into every Metalline Body, and tinges them in a moment into a white Body, as *Theophraſtus* ſaith in *Libro Vexat*: *My Spirit is that Water which ſoftneth and openeth all the congealed Bodies of my* Brethren.

XII. In Medicine it is the greateſt centrated Purge, and the Poyſon of the Dragon: if but the 100 part of a Grain be taken, it giveth many Stooles to admiration.

XIII. This white Lilly is not unfitly called the dry Corporeal Water, becauſe it mingleth with Metals, as Water mingleth with Water; it is alſo the great Salt Sea, from whence Metals have their beginning.

XIV. It can be turned alſo into a right natural wet clear Water, like Cryſtal: it is the moſt bitter matter, and can be made to be the ſweeteſt: and it is the Spirit, which is found diſperſed every where, and in every thing.

XV. About this Preparation many went to work, but could not hit the true way: they had the knowledge of this Mineral, but they were amazed at the wonderful Operation, and at the appearance of the great variety of Colours therein; ſo that they ceaſed to conſider further of the other Miracles.

XVI. Many a judicious Man which followed the Letter, hath given over there, where he ſhould have begun; many a one came ſo nigh to it, that he had the Lilly in his Hand, knew in ſome meaſure its Virtue, and yet they deſpaired, as not conceiving and believing the great things which it could perform.

XVII. This noble white Flower is that which they put many Names to, and is obtained by Art, *viz.* the ſepa-

ration

ration of the pure from the impure; but it befools them all, becauſe they knowing that the Kings Bath ſhould be pure, were mightily offended at the mean form of the Subject, and could not comprehend that the Pearl was vailed or hidden, which lyes in it, under ſuch a poor gray Coat, and with the rankeſt Poyſon.

XVIII. And becauſe they would be more wiſe than the Creator himſelf, therefore they invented a multitude of *Menſtruums*, thereby to perform the ſaid Separation, and to get the true *Philoſophical Mercury*, which *Zacharius* calls *Flos Solis*; and *Ripley* and others call it, the *Sperme* or the *Quinteſſence* of our ſtinking Earth.

XIX. But their intention being a meer invented work, ſo there came nothing of it: for to our matter no ſtrange thing muſt come: which if any ſuch Heterogenity is put to it, then is it impure and unſerviceable.

XX. In it ſelf it hath no ſuperfluity, but it is altogether like unto a *common Mercury*, to be driven up in a Fume, which is the life of Metals: and when this looſeth the leaſt in the Fire, it is impoſſible to open and to bring the Gold therewith into its *Prima Materia*, as the *Turba* witneſſeth.

XXI. Therefore there is required this *Minera* at the beginning, without the addition of any ſtrange thing at all, for the diſſolution or ſeparation, but only by and of its ſelf; out of which, afterward with the help of *Vulcan* is brought forth its hot Balſam, that it is in form palpable and impalpable, and yet is it preſented viſibly; ſo that nothing more can be required of it.

XXII. For which cauſe, Philoſophers cry, *Our Stone doth ſublime and diſſolve its ſelf, and doth all it ſelf.* They ſay, that after the Conjunction it is a moſt eaſie Work, a Womans Work, and Childrens Play.

XXIII. And ſo they reject altogether thoſe, that uſe great Subtilties and divers Elements, and would get new Principles: whereas Nature aforehand hath put the matter into the Hand of the Son of Wiſdom, in which is to be found the pure Subſtance, or as I may ſay, the *Potentates* or *Quinteſſence* of the Elements, and the three pure Principles.

XXIV. And on the other ſide, among the Sophiſters there ariſeth a great doubt, what Nature intended to make of her ſuppoſed Principles? It is an Error, if Na-

tures be not distinguished and kept in order; whereas God for orders sake puts every thing into its own place where it should stand.

XXV. Therefore how miserable a thing is it, when an old wise Fool with his opinion banisheth as it were, by his subtilties, the Truth and real Science out of or from Natures possibility; and on the other side leadeth them on impossible, difficult Businesses which he doth not understand, neither hath he any ground for it.

XXVI. Many boast, that they have the Philosophical *Luna* and *Sol*, and cannot defend or prove in fact, what they in words maintain, neither indeed with the Philosophers Sayings, because according to the meaning of *Rosarius*, there is no *Sulphur* to be found under the Sun, which is like to the Sulphur of *Sol* and *Luna*.

XXVII. Understand here the Fixity of it; therefore none can call his *Sulphur* or *Mercury* in defect of *Fixity*, a *Sulphur* or *Mercury* of *Sol* or *Luna Embryonated*, much less elementated, but he must be doubtful still, whither it be not an *Arsenical* Fumeor a *Realgarish* Sulphur, which is far off from our red and white Ferment.

XXVIII. And it is sufficiently seen now adays, that many cry up for an *Aurum potabile*, the Essences of Litharge, of Copper, Iron, Tartar, &c. and often a naturally fallen Rain water *Menstruum*, which stood on a Gold Calx, which was not extracted, and become red of its self, by vertue of putrefaction; these they sell for a great price to People, tho' a notorious and grand Deceit, and containing no kind of fixed Solar or Lunar Sulphur whatsoever.

XXIX. But it is far otherwise with our Practica: and though our Subject of the Mineral Stone containeth the true Philosophical *Mercury* and *Sulphur*, so that by its self, *sine ulla additione vel diminutione*, such a perfect Universal Medicine can be made of it; yet the *Universale Generalissimum* is far higher, which is proved thus.

XXX. Because this *Lapis Mineralis* doth not touch any Metals yet, unless it be first Fermented: therefore Philosophers bid us, to carry this Medicine upon Gold and Silver, that the Spirituality may be confirmed thereby, and the ingress may be compassed or obtained.

XXXI. Now if the Fixity and Ingress shall be taken from two fixed sorts of Metals, what think you can hinder,

der, if I ſhould preſently mingle therewith the Calxes of both Bodies?

XXXII. I tell thee of a truth, that this was the very ſhort way of the Ancients, of which *Theophraſtus* wrote ſo much, in which many before me have gone, and I my ſelf have walked in.

CHAP. XVI.

Of the Practick part of the Preparation.

I. I ſhall now faithfully reveal and ſhew the Practica how firſt may be had our *Matrix*, *Mercurius duplicatus*, and our *Regina*, or *Aqua ſicca*. Let every one obſerve carefully the Doctrine of Philoſophers, and ſee how we bring wholly and alone the *Electrum* unto perfection, which containeth the *Philoſophical Mercury* and *Sulphur*, to the end that the right *Lapis Mineralis* be made out of it.

II. But becauſe we intend to operate upon, or for the general work or *Univerſal Tincture*, you muſt know, that you are not to take the Body, but the cleareſt, pureſt Eſſence of our Subject, to make therewith our Ferment ſoft, and tranſcendently or *pluſquam* perfect, for to get the *Arcanum Arcanorum*; in which lyes hid the greateſt Myſteries, which the Philoſophers kept moſt ſecret.

III. However its Preparation is intimated by them thus, when they ſay: *fac Mercurium per Mercurium, per Aquam Mercurialem*, which are Golden Words, and impoſſible for Ignorants to believe.

IV. *Viz.* That it ſhould be *Mercurius duplicatus* or *Sublimatus*: however this Preparation cannot be had without addition, neither muſt that which came to it in the Preparation, ſtay with it, as *Theophraſtus* ſaith, in *Tinctura Phyſicorum*.

V. He that will follow the footſteps of Truth, let him ſeek after the nearer matter, which in the Druggiſts Shops may be had for a ſmall price, and in many places it may be had for nothing.

VI. This must be mingled with two parts of the most bitter Water, which is the expanded Eagle, or the glowing Coal, which the Court-Mistress, or Controler, of an Hundred Years old, in the white Zindle, giveth forth; and it must stand for a time in the Cellar.

VII. Then our Green Lyon is seen with admiration, and that is made manifest, which in many places is found in Mines; and out of which Metals grow, which is the right Salt or Vitriol, of which *Rupecissa* saith: *Victriolum seu Sal est medium & proprium Semen generandi omnia Metalla, tanquam principium remotissimum omnium Metallorum.*

VIII. When this dissolution is done, then is it brought by Distillation on the top of the Olympick Mount, where our white Dove desireth to rest, being eagerly pursued by the Eagle, to make a Prey of her.

IX. But it is so beaten off by the Rainy Weather, that our Dove by the help of the Red Lyon, becomes so pure as pulverised Pearl, or Diamond Pouder; a Poyson of Poyson, and the true Spirit of Saturn, and of Arsenick.

X. This is afterward our *White Lilly*, or *Spiritus Mercurii, Aqua Benedicta*, which Philosophers called a Crystalline Air, coagulated by Nature. *Basilius* very plainly calls it *Alumen plumosum*; but *Salomon* calls it the bright glittering Lace.

XI. If this work be rightly performed, you have then found the first Key which opens into the Virgins Castle: and there to wait for a further success, and to be kept from erring in the Fermentation, that all may be brought to the wished end.

XII. But this one thing must be well considered, how the *Fermentum* or *Semen* must be prepared, that the *Pinguedo Terræ nostræ* may the better work into, and be quickly dissolved.

XIII. And because mention is made of *Gold* belonging thereto, it is requisite, that the same be well broken and subtilized by *Basilius* his Femer Bath.

XIV. Otherwise, if it be dissolved by the common *Aqua Fortis*, and the præcipitated Gold by Salt of Tartar be taken, then the Spirits of Victriol are præcipitated also with the same; so that of one dram of Gold two are gotten often; neither can these Spirits be edulcorated, and are very obstructive.

XV. With

XV. With the Silver it is done thus; it is diſſolved in an *Aqua Fortis*, præcipitated in a Copper Pan, then the Calx is to be very well edulcorated, and reſerved for uſe.

XVI. But for more ſecurity, leſt you ſhould be hindered, by reaſon of the corroſive Spirits, it is more ſafe, that *folia Solis & Lunæ* be taken inſtead of the diſſolved *Gold* and *Silver* to proceed in the Work, then will you be free from any fear or danger.

XVII. And the truth of theſe old Verſes ſtands firm.

If thou the Gem within wouldſt get,
The Key muſt to the Lock be fit.
When Head and Tail are joyn'd in one,
The mighty Work's perform'd and done.

XVIII. Where for a further inſtruction I ſay, that by means of *Sendivogius* and others, I went mightily aſtray, when they ſaid: the one is the Matrix, the other is the Seed of the Man, and the third the Seed of the Woman.

XIX. Others take the Red Servant and the White Woman: Others put the Volatile to the Fixt, coagulate after the ancient way, then ſay they you have the Tincture of Philoſophers.

XX. *Theophraſtus* ſaith, take the red Blood of the Lyon, and the *Gluten Aquilæ*, &c. After a long conſideration, and for experience ſake, I took in hand two Works together.

XXI. I mingled in a due proportion, *the Fermentum Solis & Lunæ*, as the perfect Seed of the Man, and of the Woman, with the Matrix.

XXII. After that I joyned the *Fermentum Solis*, as the Seed of the Man, with the Philoſophical Earth, as its Matrix or the White Woman.

XXIII. Thirdly I joyned the *Mercury* with the white Ferment or *Calx Lunæ*, and put all under the Hand of *Vulcan*, expecting the poſſibility on both ſides; but at the alteration of the Fire, I found but one effect.

XXIV. Hence every one may be aſſured, that he cannot be damnified, which way ſoever he taketh, except in Harveſt time; wherein the Fruits will appear correſpondent to the Seed of each.

XXV. This Conjunction, though it looks but mean, yet you muſt not tranſgreſs in the quantity or weight,

for if therein an Error ſhould be committed, it would be an Univerſal Error thro' the whole Work; for which cauſe, it is neceſſary to take the Advice of truly Philoſophick Authors.

XXVI. For my part I followed *Sendivogius*, and he may ſafely be followed. For he ſaith *Tract.* 9 if the Gold be mingled with it eleven times: Scil. 11 parts, then is it weak, almoſt unto Death, the Chalybs conceives, and Bears a Son, who is more glorious than his Father.

XXVII. If afterward the Seed of the new born Son is put again into its *Matrix*, then he cleanſeth the ſame, and maketh it a thouſand times fitter to bring forth the moſt glorious Fruit.

XXVIII. He that ſtrikes this in the Wind, and ſlighteth it, cannot make a mixture, nor attain to any diſſolution or perfection.

XXIX. But when the Conjunction is done in the aforeſaid manner, the Compound, (which however comes from one) is ſet into a convenient Digeſtion, and is continued for a Month.

XXX. And then is it ſeen afterwards, how the Philoſophers *Mercury* worketh on the Body, and the putrefaction enſueth; the whole matter turning into a black colour, like Ink.

XXXI. And the Philoſophers darkneſs cometh to light, ſo that the Calcination and Solution of the wiſe Maſters is performed at once therein.

XXXII. And the Pores of our Body are thus opened, that through the help of the Volatile Body or Servant, the Fixt may be made Volatile alſo, and the Parents may feed on the Child, and keep united inſeparably.

CHAP. XVII.

The former Diſcourſe continued.

I. THe Philoſophers Sublimation muſt not be taken for a thing that is driven on high, as the Sophiſters ſay: but the cloſe and compact Body muſt rightly be opened and ſubtilized, and the impure ſeparated from the pure.

II. Nor

II. Nor that Sal Armoniack muſt be added to it, as Chymiſts uſually do, and ſo mingled together; and though *Sendivogius* maketh mention of ſtale Urine, yet he meaneth Sal Armoniack, when he ſet forth our penetrating Mercury by ſuch a Sal Armoniack.

III. For as Sal Armoniack penetrateth, and brings the leaſt Metal into Corruption, ſo doth our Sal Armoniack with the moſt fixed Body: for it corrodeth, diſſolveth and corrupteth the ſame, cauſing another form, and a new Generation to come forth.

IV. *Corruptio enim unius eſt Generatio alterius*; and this is performed by the help of a due gentle Fire, and by the Mercurial Fume or Mineral Water, which is the true *Fontina Bernhardi*; that after the finiſhing of the ſame degree the *Ferment* is not to be found again, though the *Fontina* were drawn dry.

V. Now if this degree be ſucceſsfully finiſhed, as it may commodiouſly be done in a Month or four Weeks, thereupon followeth the Coagulation, which hath coagulated and dryed up many Mens Brains, inſomuch, that they loſt thereby all their Underſtanding.

VI. Becauſe they imagined, that a wet Spirit belonged to this Solution, and that they ſaw and concluded, that the Solution or *Menſtruum* is of greateſt concernment; whereupon they ſtrove to uſe a multitude of means for the Solution, as their Writings and Books of Proceſſes ſufficiently ſhew.

VII. Falling into ſuch Errors, at laſt they knew not how to bring the diſſolved Bodies to any coagulation; and before they could compaſs it, their Glaſſes broke in pieces.

VIII. Yet ſome of them brought it to a conſiſtence by pellicanizing, frequent Cohobations and Circulations; but the Maſs they obtained, was to no purpoſe, and worth nothing to their Intention; becauſe the requiſites mentioned above, were not found therein.

IX. Our true Coagulation is perſormed in this manner, the Spirit muſt fix and coagulate it ſelf with the Calxes of its kind. For Coagulation and Fixation is one.

X. And our Spirit is not a common Water, but a moſt Volatile Spirit and Hermaphrodite, becauſe it tranſcends all other diſſolving Waters, opening radically the

Silver

Silver as well as the Gold, which could not be done by any other Spirit or Water.

XI. Hence it is requiſite that it be brought to a ſuperfixt Subſtance, and if it were not a Metalline, dry Spirit, ſuch a Coagulation could never enſue; for no common Water or Spirit can be mixed with Metals, as to make it inſeparable.

XII. In this degree the Fire muſt be ſo encreaſed and continued, till the black looſe its ſelf, and turn white, where the Fume allayeth, and ſo uniteth, that it can no more be ſeparated; and this is performed meerly by *Vulcan*.

XIII. For as the Volatile was at the firſt the Agent, and by its ſubtileſt Spirits diſſolves the Body, and changes it into a Spirit; ſo is it now in the other ſide.

XIV. The Body becomes now the Agent, and lets forth his hot fiery Nature, binds the Spirit, and makes it generate *in maſſam plus quam perfectam*, but this requireth time; and this Labour can hardly be finiſhed in a Year.

XV. But there are required ſome Months to the true Calcination of our *Æs*, where the degrees of Fire muſt riſe. For Philoſophers ſay, *Comburite æs noſtrum cum igne fortiſſimo.*

XVI. Therefore this burning muſt continue for a time, if you intend to get the Phœnix; ſo that the *Maſſa* look not green as a *Smaragd*, but be changed into the colour of a Red Ruby.

XVII. Yet, before this there preceeds the colour of a Peach Bloſſom, for a ſign that the Work goeth right.

XVIII. The Work being brought thus far, thou ſhalt ſee, how eaſily the *Terra Mortua* may be ſeparated from it, for to get *the Eſſence of all Eſſences*; and thou mayſt have the Stone *in forma ſicca & liquida*, which is one Work, and yet fooleth many.

XIX. For when our Body hath been firſt in the ſaltiſh Waters, they muſt be the ſame at laſt, for the true Univerſal Tincture muſt infallibly have ſuch qualities, if ſo be it ſhall be ſerviceable to its Brethren, as has been ſaid, *viz.* to the inferior Metals; and Cure Mans Infirmities.

XX. For as in Harveſt time, the Husbandman gathers his Sowed Corn with great encreaſe, ſo here there is ſeen

alſo

alſo a great augmentation; ſo that it rejoyces and refreſhes the Poſſeſſor, and requites all his pains *in quantitate & qualitate.*

XXI. Now, that all things may be compleat in this Work, and that I may not be blamed for any concealment, I will ſufficiently inſtruct you, how the ſaid Separation muſt be made, and how the Central Salt after Calcination and Fixation, muſt be extracted.

XXII. Though the Philoſophers, by reaſon of ſome Ignorants, and unexperienced Perſons in the Work, were ſilent and myſterious, yet they made the end clear and manifeſt; and they confeſt plainly, that the final Solution was in the Wine Veſſel, *viz.* that by the Spirit, which lyeth hid therein, this ſaltiſh Extraction can be had.

XXIII. For ſay they, as a Glaſs, filled with common Wine, doth not run over if any Gold be laid in it, but keepeth together, and as the Magnet draweth Iron, ſo doth the Spirit of Wine and the Eſſence of Gold, far more abundantly; ſo that thereby a full reſtitution of Mans weak Body may enſue.

XXIV. So that Philoſophers by the help of their Work, may take ſomething out of it, for to hold out the better, that the *Operator* may in the *interim* have ſomewhat *to live upon.*

XXV. And they bid Men to reduce it to a *particular Work,* (which is underſtood thus, that *Silver* can be tranſmuted into *Gold*) of which more ſhall be ſpoken in the Chapter of particulars, to which place I reſerve it.

XXVI. Every one may eaſily gueſs by that, which hath been ſaid, of what the *Lapis* muſt be compoſed, if at the half time, a Booty may be taken out from thence.

XXVII. I ſhould ſpeak alſo of the augmentation, but not having perfected the Work ſo far, to the great and Univerſal ſatisfaction, I leave it now here with this Preparation, and ſo far as my experience has truly taught me.

XXVIII. Not doubting, but when you have come thus far in the true way, and that it is fully known to you, that the *augmentation* may proſperouſly ſucceed or enſue, which, as I conceive, cannot be performed by any other means but through its Principles; and thus I leave this Diſcourſe of Preparation.

CHAP. XVIII.

CHAP. XVIII.

Of the Inſtruments fit for this Work.

I. OF the neceſſary Inſtruments I have this to ſay; our Stone, ſay Philoſophers, is one matter, and requires one Veſſel, and one Furnace: hence it may be gathered, that indeed it muſt be no otherwiſe.

II. I my ſelf had no need of Sublining, Calcining or Reverberating Furnaces, Athanors or dull Henrys, or other ſeveral Furnaces; there is no need of Artificial Veſſels, eſpecially to thoſe that have the truth.

III. One Glaſs, a Veſſel of Glaſs or Clay, in the form of a round Chamber or Egg, is enough at the beginning.

IV. It is true indeed, that thoſe which walk in this way in an other form, invent other Veſſels and Furnaces, becauſe their intention is ſtrange; therefore they muſt have ſtrange Inſtruments alſo.

V. But they may be asked, if *Spiritus Mercurii, Vitrioli, Solis, Roris Majalis, Sulphuris, Salis Armoniaci, &c.* have been the *Menſtrua Philoſophorum*; pray what Inſtruments had the *Ancients*? in whoſe time there were no Glaſſes in uſe? And what uſed they for their Coagulation of corroſive Spirits?

VI. I am of opinion, that their Earthen Pots, would have attracted far ſooner, as they truly thought, and ſuddenly coagulated ſuch Spirits.

VII. But by this conſideration every one may gueſs, that *their Aqua Solvens muſt needs have been a dry Water or Spirit; for otherwiſe it had been impoſſible, that the ſaid Ancients, by reaſon of the want of Glaſſes or firm Inſtruments, could have coagulated the ſaid Spirits.*

VIII. And all the Philoſophers had groſly err'd, that ever made mention of a *dry Menſtruum*, if there had been at hand another Diſſolution.

IX. Now, though ſomething may be objected againſt this, yet I do hold, that I may build further upon my Experience and the faithful Writings of Philoſophers, than upon any Mans imagination.

X. Beſides,

X. Besides, the said Ancient true Philosophers had not so great Expences to build such fair Artificial Furnaces and stately Laboratories, as they do now a days, but made use of a small Furnace in a quiet place, and attended the same.

XI. The variety of several Furnaces intimates the variety of Labours, and diversity of Matters, when otherwise all the Writings concord with one Saying; that the Being of our Art doth not consist in varieties of Matters, as *Hermes* plainly speaks of it.

XII. Therefore let Novices not trouble themselves with many Furnaces and Laboratories, one small Furnace is enough to exert and demonstrate all the degrees therein.

XIII. Let it be set in a place, where you fear not any danger of Fire, lest mischief should ensue, and spoil or destroy all your Work.

XIV. And into this Furnace let him fit a Capell or Pann, and fill the same with Sand or Ashes, and set his Glass therein, and not take it out, unless he see the whole Mass look of a Blood red Colour.

XV. When that Colour appears, it is the sign of Harvest, which is nigh at hand. *Let this suffice concerning the Instruments and Furnaces.*

CHAP. XIX.

Of the requisite Fire: and first of the Ignis Externus.

I. IN the next place there followeth the Fire, how that must be governed, so that this most noble Mistery may be elaborated, and brought forth; which is a most necessary point for Novices to know, lest they fall into hurtful Errors.

II. For it is known, that Authors have concealed their Fire, which is the chiefest and greatest matter of the Operation herein, and intended to terrifie and keep off the simple ones by their dark Sayings.

III. I grant, what *Artesius* saith in the Book of *Truth*, that our Fire is for to expand the natural Elemental Fire, which

which ſtirs up and maketh the other Heavenly and Terreſtial Fire to work, which is hid in the matter.

IV. And this, when he ſaith: *put our Gold and Silver in our Fire, then it turns to a dry Liquor.*

V. And becauſe here are named two Fires, let every one obſerve, that the common Fire is too weak, to burn our *Phœnix*, if the other Fire, which is hid in the matter, (mightily kept ſecret, with ſtrange Names) did not the beſt.

VI. Hence the Ancients ſaid: not *Balneum Mariæ, Aſhes, Sands,* &c. *ſed ignis calcis vivæ, ſive calor Sulphuris vel Mercurii noſtri, &c.* is the true Fire.

VII. And it is true, that of theſe two Fires the one without the other can do nothing; and if the Operation of both ſhall enſue, then the natural Fire muſt kindle the other, and make it work.

VIII. And the cold muſt not be taken for the warm, nor the warm for the cold, much leſs the external muſt not exceed with a great force the internal; for then all your doing will prove a labour in vain, and drive the Volatile from the Fixed.

IX. Or, cauſe our *Maſſa*, being very fluid, to be brought into a Flux or Running; as it happened to me ſeveral times, that my whole Work was ſpoiled thereby.

X. But the Fire, as *Bernhardus* ſaith, muſt be an equal digeſting, conſtant Fire, not too forcible nor too hot.

XI. In the firſt degree, you muſt not make haſt with the Solution, for if the Body be not rightly diſſolved, there cannot follow any firm Fixation of the Volatile.

XII. After the Solution, it is requiſite, that the ſecond degree be exerted or obſerved, where the whole *Maſſa* is turned to a white Diamond-like Pouder; but before that, there appear ſeveral fair Colours in the Glaſs, as well as in the matter.

XIII. When this is done, and the *Albedo* changeth, ſo that it turns to the appearance of a *Peach colour bloſſom*, then make the Fire not too ſtrong, leſt you ſpoil the Work.

XIV. For Philoſophers atteſted ſo, and have declared it ſo, when they ſaid: *Comburite æs noſtrum cum igne fortiſſimo.*

XV. Then the whole Operation obtaineth the end, when the whole Subſtance is turned into a deep red colour, like unto a Ruby, or like to Blood; and in

or on a glowing plate, ſheweth its ſelf like an Oil without a Fume, of a ſweet Taſte, and diſſolveth like Salt in any Liquor.

XVI. Then is the Body Calcined, and the Spirit rightly united and fixed.

XVII. It might be asked, becauſe I ſaid above, that the Maſs is very Volatile, and melteth into one Lump in a ſtrong Fire, and cauſeth damage; how one might be ſo cautious, as ſpecially to obſerve it, ſeeing that in the fourth degree the ſtrongeſt Fire muſt be uſed?

XVIII. Here obſerve, that the Matter or the Spirit, at the beginning, hath not endured yet a true uniting with the Body, but through the force of Fire may eaſily be ſeparated from it in the Flux, Melting, or Sublimation.

XIX. But after the Diſſolution our Spirit is coagulated, and hath no more any ſuch fluidneſs, and is no more ſeparable, two are become one; ſo that no Element can ſeparate them.

XX. It may be objected, doſt not thou contradict thy ſelf? muſt not thy *perfecta Maſſa*, or *Lapis Philoſophicus*, be fluid, like Wax or Oil? Why doſt thou ſay, that after the Solution and Coagulation, there is no more any ſuch fluidneſs or damage to be feared? Perhaps thy Medicine will be an unworthy matter, as others, a ſturdy unpenetrating Pouder?

XXI. Note here again, that after the finiſhing of our Work, there is then required the greateſt and moſt ſecret Science.

XXII. For when our Body is duly Calcined with the *Philoſophers Mercury*, or is diſſolved with the often mentioned *Aqua Sicca*, and coagulated; then at laſt there happeneth a Separation.

XXIII. So that the *Terra Mortua* ſeparateth from the Eſſence of *Sol*, and muſt be ſeparated, as *Sendivogius* ſaith *in Tract. de Mercurio: when it is burnt, then is it put in the Water, and is digeſted; after it is digeſted, is it given to Sick Bodies; for the which, I have already nominated the Spirit of Wine.*

XXIV. For this *Terra Mortua*, as an unworthy thing, containeth a great ſturdineſs or hardneſs, which hinders the flux or fluidneſs of *our Eſſence*.

XXV. But

XXV. But after the Separation, we have the true incombuſtible Oil, the Aſtral Salt of Philoſophers, the end, which is like to the beginning, the moſt worthy from the moſt unworthy.

XXVI. And in brief, after this final Separation, thou haſt thy Medicine *in forma Sicca & Liquida*; the true Treaſure of all Riches, the greateſt Miſtery, which lay ſecret and hid in Nature, the true *Aſylum deſertorum Pauperum*, and the right true infallible *augmentum*; yea, ſuch a Treaſure, of which I ſpeak, that thou mayſt cry, VICTORIA.

XXVII. For this Salt hath the victory of all things, over all the *Volatile Spirits of Metals, and to coagulate Mercury.*

CHAP. XX.

Of the Ignis Internus.

I. TO ſay ſomething of the Myſterious Fire of our matter, I muſt confeſs the truth, that I muſt agree and conſent with the true and faithful Philoſophers, and ſay, that our dry Water is nothing elſe, but a Sulphureous Living Fire.

II. But it is not the common Sulphur, which Calcineth Metals, burneth and deſtroyeth them; but it is a *Sulphureous Water*, which bringeth Metals into a *Meliration.*

III. And of this *Geber* ſaith, *qui Sulphur commiſcere, & Corporibus Amicari noverit, inveniet Arcanum de ſecreto Naturæ maximum.*

IV. This Sulphureous Living Water, is one of the greateſt Fires, which hath power to mingle with our Body.

V. And it is the true Eſſence of the Elemental, Heavenly and Earthly Fire, which typifieth the Fire of the Laſt Judgment, whereby the Elements themſelves are diſſolved; and ſhall bring forth new Elements, as it were the Eſſences of the former.

VI. But

VI. But becauſe this far exceeds, or goeth beyond the common reaſon, it is counted an Impoſſibility, and Abſurdity; and none takes pains to underſtand theſe plain Sayings of the Philoſophers.

VII. Much leſs do they underſtand the profound Allegorical Doctrines of the true Sons of Wiſdom, who wholly concealed their Fire.

VIII. And it is juſt, it ſhould be concealed, and kept ſecret, that it may be eſteemed as a folly or fondneſs to the Self-deſigning and wicked World.

IX. Many undertook to elucidate this point, but they have not meliorated the Spagyrical Republick; but only deteriorated it.

X. They invented a ſtupendious multitude of Fires, of Candles, Lamps, and the like: they adviſed the uſe of Steel Glaſſes, of Horſe Dung and Hogs Dung, imbibed with Urine, or *Aqua Vitæ*: at laſt they invented the continual ſhaking and ſtirring, that they might ſtir up our Fire, and to be the cauſe of the Solution.

XI. But *Bernhardus* counted all this meer Foppery, and rejected them; though many did imagine, that a diverſity of Fires was requiſite.

XII. For, as perchance a Philoſopher may have obtained the end ſucceſsfully, for which reaſon he has rejected all other ways, and walks only after his own way: ſo, becauſe out of any thing in the World this our Medicine may be prepared, therefore of neceſſity in thoſe caſes there are required alſo ſeveral Furnaces, Inſtruments and degrees of Fire.

XIII. Every Maſter, who knows beſt the qualities of his Work, knows how to order the Regiment of Fire as he pleaſeth.

XIV. But it needs no exact Art or Government, becauſe Children and Women ſportingly can perform it.

XV. The Fire, (*viz.* the natural) is all the Art, whereby Nature or the Work is accompliſhed, the other Ingrediences are mean, as *Bernhardus* ſaith: *in rerum multitudine Ars noſtra non conſiſtit: eſt enim Res una, Medicina una, Lapis unus, in quo totum Magiſterium conſiſtit, cui non addimus rem extraneam niſi quod in ejus præparatione ſuperflua removemus. Nam per eum, et in ea ſunt omnia Artis neceſſaria.* He that teacheth otherwiſe, is a Sophiſter, and only uſes the Ballances of Deceit.

XVI. Beſides, if every Philoſopher, in time of *Bernhardus*, made his Stone out of a ſingular matter, no knowledge could be had concerning it ſo ſoon, and ſo eaſily; but only by this means, their words and deeds agreeing, it produced a Knowledge and Friendſhip one among another; and without this it would have been as a concealed Treaſure to this day.

XVII. But their agreeing and Harmonious Diſcourſe, in the Fundamentals of Truth, drew them together, that they could judge, whether this or that, or the other Man, ran the race of Truth, or ſaw into the depth of the Miſtery they ſought after.

CHAP. XXI.

Of the time for performing this Work.

I. LAſtly, and in the ſixth place, of the time, which is required for the preparation of this great Work, we come now to Treat. Authors are in ſeveral opinions, ſome ſpeaking of eight, three, two and one Year; theſe unequal judgments concerning the time, may make a Man doubtful, and ready to err; yea, and after a due pondering, to fall into Error.

II. But I hold it with *Bernhardus* and *Sendivogius*, that our Stone, as my own great experience aſſures me, I ſay, that it may very well be finiſhed in a Years time.

III. For in one Month the putrefaction is performed; in the ſecond Month the Diſſolution, Calcination and Sublimation, all which is but one; in the third Month appeareth in the Maſſa, *cauda pavonis*, and the *Rainbow*; in the fourth Month the *Agent* and *Patient*; and the white Colour alſo appears.

IV. This white Colour laſteth two Months; and if you do not keep the true and due degree of Fire, it holdeth yet longer.

V. After the ending of the whiteneſs, nothing can be amiſs in the Fire, yet ſo long it muſt be continued, till the Medicine getteth the true *pluſquam perfection*, and is

of

of a tranſparent, Ruby like Colour; which at laſt followeth infallibly.

VI. But why they differ ſo much in the time, I think the reaſon thereof to be this, becauſe at the firſt in the Solution, their degree of Fire was too gentle, and their Work went ſlow unto blackneſs; or elſe that ſome had invented to themſelves ſuch a long time, and their propoſed matter could no ſooner be coagulated.

VII. I alſo believe, that ſometimes, many Years are required unto *Coagulation*, and *pluſquam perfection*, of the Spirit of *Vitriol*, *Terræ*, *Roris*, *Salis*, &c. and no wiſhed effect followeth.

VIII. Theſe differing times doth not take away the poſſibility of this great Work; and the ſhorter time is not to be ſlighted or rejected, as untrue or falſe.

IX. Laſtly, none ought to imagine, as if this my Tincture at its firſt beginning ſhould tinge preſently One Hundred Thouſand parts, and bring in great Riches; no, this cannot be done, becauſe it is yet in its Infancy, or the firſt degree.

X. But it muſt be brought to ſuch redundancy, ſuperfluity, or mighty fruitfulneſs, through the long continued and manifold Imbibings.

XI. But if one hath gotten to a deep *Rubedo* in this Work, he may be fully aſſured, that his Labour will not go unrewarded; and that it will not be in vain, or without effect.

XII. This Tincture is ſufficient in the Medicinal Uſe, and has no need of augmentation; but it is eaſie to extract the white fixed Salt out of the calcin'd Work; and may be uſed to all Diſeaſes, to cure them, and reſtore the Body unto perfect Health.

XIII. And thus have we finiſhed this Diſcourſe in few and true Words, and Dedicated it to the Uſe of the ſincere and indefatigable Searchers out of Truth.

CHAP. XXII.

Of a profitable particular Work.

I. DAily Experience teſtifies, that among many thouſand Proceſſes, yea, among Cart Loads of them, there is not one which is true: by reaſon whereof this noble Art is ſlighted, deſpiſed, and ſet at nought.

II. And becauſe by theſe many falſe Proceſſes, Mankind has been deluded, therefore it was alſo thought, that there was no ſuch thing as the Philoſophers Stone, or Tincture; and that the Univerſal Tincture could never be brought to perfection, or to perform the Tranſmutation of Metals.

III. To which we Anſwer, That there is infallibly ſuch a thing as the true Univerſal Tincture; and beſides that, that there are certain profitable infallible particulars, which are practicable without great difficulty.

IV. In the Operation of the whole Work, the matter muſt be found on the one part, as well as on the other; elſe the Writings of the Philoſophers, will be found nothing but falſhoods.

V. But as the Philoſophick Stone or Tincture has its peculiar and manifold requiſites; ſo alſo have the particulars the ſame requiſites.

VI. Now, that you may avoid the falſe Proceſſes, and have a ſure foundation to build upon, as to particulars, ſo as to make them profitable, and not fail neither in beginning, continuation, nor end, I ſhall lay down the following *Philoſophick Verity* for a Rule, *viz.*

VII. *You muſt unite Sol and Luna ſo firmly and abſolutely, that they may be for ever inſeparable:* If you know not how to do this, you know nothing truly in our Art.

VIII. Here lies the Root and Foundation, yea, the profound Miſtery of all particulars, the which my experience has demonſtrated to me in manifold and various ways.

IX. Underſtand this thing rightly, and lay hold of Diligence, ſo will the Vail of Ignorance be taken from your

your Eyes; for all Proceſſes which center not in this *Verity* are vain and falſe.

X. Now, that you may have no cauſe to complain of the brevity of the afore declared *Philoſophick Verity*, hear farther what the Ancients and Great Men in this Art ſay.

XI. You muſt ſo join or mix Gold and Silver, that they may, (notwithſtanding any means whatſoever) be inſeparable. This is ſpoken of a particular Work.

XII. What think you, if I ſhould ſo perfectly unite theſe two Bodies, what would this Union come to? I give the Searcher after Truth leave to judge.

XIII. But truly I tell thee, that this united *Sol* and *Luna*, thus perfectly done, can never be ſeparated, no: neither by *Aqua Fortis*, the *Quart*, *Cement*, nor *Antimony*.

XIV. And when they are thus united, it is a very great and profitable particular: for here *Luna*, by the virtue and power of *Sol*, is totally fixed, graduated, and made ponderous.

XV. This is the particular which the Ancients (learned in this Art) bid you to underſtand; that you may be able to proceed on, and to purſue, to the finiſhing of the great Work.

XVI. Here *Luna* rides on a Chariot of four Wheels, like *Sol*, viz. *Color*, *Fixity*, *Mallability* and *Ponderoſity*: Here ſhe borrows Six Meaſures of the Sun, and as a Queen, wears the Kings Crown: here the Frigidity is conquered by the Calidity; and the White Woman becomes the Red Man.

XVII. And here the true *Filius Hermetis* may ſee, that the Doctrine of the true Philoſophers differs much, from the jugling Proceſſes of Deceivers, *for that our particulars have their Off-ſpring from the Root of the true Univerſal Subject.*

XVIII. And it is the greateſt of Truths, *that the Conjunction and Union of the Bodies of Sol and Luna is the real beginning of our true Medicine, Elixir or Tincture.*

XIX. Among the vulgar Proceſſes, there is nothing but falſhood and deceit, wherein the *Luna* is never fixed, but is wanting of ponderoſity, and black; having been only waſhed, and fixed (as they call it) with Salt, and

graduated, with the Sulphurs of *Mars* and *Venus*, and made ponderous with *Saturn*.

XX. O fooliſhneſs! O blindneſs of Mind! can common Salt be the Soap of the Philoſophers? can the Volatile Sulphurs of *Mars* and *Venus* be ever made the *Red fixed Eagle*, or the *Red fixed Sulphur* of *Sol*?

XXI. Can common *Saturn*, or its *Vitrum*, ever become our ponderous Ruby Star, or our fixed *Salamander* ever living in the Fire?

XXII. Have not the Philoſophers ſaid, that whatſoever is to be meliorated, or made better, it muſt be thro' a better thing than it ſelf, and not thro' a worſe, as is daily the practice of Sophiſters.

XXIII. How do they ſtand with their fixing Pouders, and their ingreſs Pouders, melting like Butter in the Sun? whilſt they want the true knowledge, how to diſtinguiſh between that which is fixed and that which is not fixed.

XXIV. If they underſtood in what degree of fixation *Sol* and *Luna* are graduated, and of what Quality their *Species* are, in Melting, Calcining, Diſſolving, Cementing, Graduating, and the like; they would be aſhamed to go about the making of Gold with Droſs or Turds.

XXV. But as to the clearing up of theſe particular Works, I refer you to my former Diſcourſe *de preparatione Lapidis*, from Chap. 12. to this preſent Chapter; from whence you muſt get the Key, which muſt open, and let you into the ſecret Miſtery even of theſe particulars.

XXVI. By which you will know how to take ſomething out of the United Bodies of *Sol* and *Luna*, and how to reduce the ſame: if you proceed otherwiſe, you will fooliſhly fall into Error, which may lead you ('tis probable) into the Paths of too late Repentance.

XXVII. He that has once truly obtained this *Augmentum*, is aſſured that he has met with the infallible Verity, with an incorruptible Tincture, yea, with an infinite Treaſure; and needs the help of no other Inſtructor.

XXVIII. This Augmentation in the particular and univerſal way is to be kept in the profundity of the Philoſophick Silence; and when Diſcourſed of, to be done only in Parables, Riddles, and Similitudes, and as it were at a diſtance, that Profane and Vile Perſons may be kept from the knowledge thereof.

XXIX. The

XXIX. The Poſſeſſor of this Treaſure has no occaſion to run to Kings, Princes, Lords, Nobles, or Great Men: they that do ſo, have none of the Secret, but deſire to try Concluſions at other Mens Charges.

XXX. The true Poſſeſſor ſeeks not after ſuch Friendſhips, or Earthly Glories; he is content with his *Molicum*, or Little, and has enough, even the whole World in his Philoſophers Egg, which he can carry about him whereſoever he goes.

XXXI. Beſides, he may conſider, that between a Prince and himſelf, no endeared, no faithful or conſtant Friendſhip is to be found: and ſo ſays *Sandivogius*: as often (ſays he) as I went about to communicate any thing to Princes and Lords, I always met with deceit and vexation.

XXXII. But to the matter in hand: *Endeavour wiſely to prepare the Philoſophick Subject; keep the ſame in a due heat, in the Philoſophick Marriage Bed; and in patience poſſeſs your Soul, till the Conſummation of the Work is accompliſhed.*

XXXIII. *Avoid all great Compounds; and think not that you have obtained any* Particular *tho' from* Luna; *unleſs ſhe is meliorated thro' the Influence, Power, Goodneſs and Sweetneſs of* Sol.

XXXIV. 'Tis a meer deceit to ſay, that there is no Gold, but what was firſt Silver; nor any Silver, but what was firſt *Saturn*, *Jupiter* or *Venus*: if this was not true, then *Aq. Regis* would diſſolve *Silver* as well as *Gold*: and *Aqua Fortis* would diſſolve *Gold* as well as *Silver*, which we ſee and know they will not.

XXXV. For if ſo, we need not look long after the true Tincture; for it would be a ſmall matter to Digeſt the Oar's of *Lead*, *Tin*, *Copper* and *Silver*, ſo as to tranſmute them into a better Matter or Metal.

XXXVI. And you will find it to be a certain Truth, *that every Genus has its particular* Semen, *or Seed, and cannot be meliorated, unleſs it is done by the* Acme, *or Superfinity of the Fixity of* Sol *and* Luna.

XXXVII. But I grant, *that the Original or Beginning of Metals in the General, is a Vitriolick, Salt Water, which is impregnated by the Sulphur of every* Genus, *and then is formed or tranſmuted into ſuch a Metal, according to the kind of the Sulphur.*

XXXVIII. Now if any one ſhould attempt to diſſolve the inferior Metals into their firſt Water, thro' the firſt Water; and then to impregnate and fix it with the *Sulphur*, *Semen*, or Seed of *Sol* and *Luna*, the Work would be ſo long in perfecting, that no Man, tho' never ſo long Liv'd, could ever live to ſee the end thereof.

XXXIX. And beſides, who is it, that is ſo fill'd with Learning and Underſtanding, and the Spirit of Wiſdom, that can find out this *firſt Water of Metals:* without which, this ſo long Proceſs, could never be accompliſhed?

XL. In concluſion, be warned, and follow my Advice, which in this Diſcourſe I have given: Obſerve the words of my Doctrine, and take it for a Maxim of Truth; *That without the Conjunction of Sol and Luna, the Royal Offſpring can never be conceived or brought forth.*

CHAP. XXIII.

An APPENDIX,

Containing Certain Natural Experiments.

I. *TO make Artificial Fleſh.*

Take Crumbs of the beſt Wheaten Bread, as ſoon as it comes forth out of the Oven, being very hot, and as much as you pleaſe; put it into a bolt head of Glaſs, (without any other moiſture than what is in the Bread it ſelf) which preſently ſeal up Hermetically. Then ſet it in Digeſtion in a temperate Balneo, the ſpace of two Months, and it will be turned into a Fibrous Fleſh. This being exalted to a higher perfection by the Rules of Art, you may eaſily ſee how great a Nouriſher and Reſtorative Wheat is, and what an Excellent Medicine may be made of it.

II. *To make an Artificial Mallago Wine.*

Take a Wine Veſſel well Hoopt with Iron Hoops, and one end open, to which a cloſe Cover muſt be fitted to take on and off at pleaſure, ſet it in a warm place, fill it full of fair Water, to every Gallon of which put two Pounds of Mallago Raiſons, firſt bruiſed in a Stone Mortar;

Mortar; and to every Twenty Gallons of Water a good handful of Calx Vive: cover the Veſſel cloſe, and keep it warm with Cloths: let it ſtand four or five days to work: then ſee if the Raiſons be riſen up, and beat them down, and cover it again as before, beating them down every fourth or fifth day for three or four Weeks: then put a Tap in, four Inches above the bottom, and ſee if it taſts like Wine; if not, let it ſtand a while longer; after which draw it off into another Wine Veſſel, and to every Twenty Gallons put a Pint or Quart of the beſt Spirit of Wine (as you would have it in ſtrength) two new laid Eggs, and a Quart or better of Allicant well beaten together. Let it ſtand in a Cellar as other Wine till it is fine, and fit to be Drunk.

III. *To make an Artificial Claret.*

Take Water ſix Gallons: choice Cider two Gallons: beſt Mallago Raiſons bruiſed eight Pounds: mix and let them ſtand all in a warm place fourteen days, ſtirring them well once every day. Then preſs out the Raiſons, and put the Liquor into the Veſſel again, to which add juice of Raſp-Berries a Quart: juice of Black Cherries a Pint: juice of Black Berries a Pint and a half: cover this Liquor with Bread ſpread thick with ſtrong Muſtard, the Muſtard ſide being downwards, and ſo let it work by the Fire three or four days; after which Tun it up, let it ſtand a Week, and Bottle it up, ſo will it become a very brisk and pleaſant Drink.

IV. *To make an Artificial Malmſey.*

Take eight Gallons of Spring Water: Engliſh Honey two Gallons: make them Boil over a gentle Fire for an Hour: take it off, and when it is cold, put it into a Rundlet, hanging in the Veſſel a Bag of Spices, and ſet it in the Cellar for half a year, at the end of which you may Drink it.

V. *To make Raſp-berry Wine.*

Take Canary a Gallon: Raſp-berries 2 Gallons: mix and digeſt 24 hours: ſtrain them out, and add Raiſons of the Sun ſtoned three Pounds: digeſt again four or five days, ſometimes ſtirring them together: then pour off the cleareſt, and put it up into Bottles, which put into a cold place: if it be not ſweet enough you may dulcify it with Sugar.

VI. *Another way to do the ſame.*

Take

Take juice of Raſpberries, Bottle it up cloſe, and ſet it in a Cellar, and it will become clear, and keep all the year long, and be very fragrant, a few Spoonfuls of this put into a Pint of Wine ſweetned with Sugar, will give it a full taſte of the Berry: two or three Ounces of the Syrup of the juice will do the ſame.

VII. *To purify Oyl Olive, that it may be eaten with pleaſure.*

Take fair Water 2 Quarts, Oil Olive a Pint: mix, and ſhake them well together for a Quarter of an Hour in a Glaſs; then ſeparate the Water from the Oil with a ſeparating Funnel. Do this four or five times, or more, as you ſee occaſion, till the Oil becomes very pure: and the laſt time waſh it with Roſe Water, then hang in the midſt of the Oil a courſe Bag full of bruiſed Nutmegs, Cloves, and Cinnamon, ſo will you give it an excellent taſte.

VIII. *To purify Butter, and make it of a moſt ſweet taſte.*

Melt Butter with a ſlow Fire in a well glazed Earthen Veſſel, being almoſt filled with fair Water, working them well together, and when it is cold take away the Curds and the Whey at the bottom. Do it again the ſecond time; and if you ſo pleaſe, the third time in Roſe Water, always working them very well together. The Butter thus clarified will be as ſweet in taſte, as the Marrow of any Beaſt, and keep a long time, by reaſon of the great impurity which is removed by this means; the Droſs being near a Quarter of the whole.

IX. *To make Sage, Parſley or Pennyroyal Butter.*

When the Butter is newly made, and well wrought from its Water, Milk, and Wheyiſh part; mix therewith a little Oil of Sage or Parſley, ſo much, till the Butter is ſtrong enough in taſte to your liking, and then temper them well together: this will excuſe you from Eating the Plants therewith: and if you do this with the aforeſaid clarified Butter, it will be far better.

X. *To puriſy and refine Sugar.*

In a ſtrong Lixivium of Calx Vive diſſolve as much courſe Sugar as it will bear, adding to every Quart of Liquor, 2 Whites of Eggs, beaten into Glair, ſtir them well together, and make them Boil a little, taking off the Skum, as long as any will ariſe: then paſs all through a great Woollen Cloth Bag, ſo the Fœces will remain behind

behind in the Bag, then Boil the Liquor again ſo long till being dropt upon a cold Plate, being cold, it is as hard as Salt: this done, put it out into Pots or Moulds for that purpoſe, having a hole in the narrower end thereof, which muſt be ſtopt for one Night, afterwards being opened, the Moloſſes or Treacle will drop forth: then cover the ends of the Pots with Potters Clay, and as that Clay ſinks down, by reaſon of the ſinking of the Sugar, fill them up with more Clay, doing thus, till the Sugar will ſink no more. Laſtly, take it out, and being hard and dry, bind it up in Papers.

XI. *To make a Vegetable grow more glorious than its Species.*

Reduce any Vegetable into its 3 firſt Principles, and then join them together again, being well purified: put the ſame into a Rich Earth, and you ſhall have it produce a Vegetable far more Glorious, than any of its Species.

XII. *To make a Plant grow in two or three Hours.*

Take Aſhes of Moſs, which moiſten with the juice of an old Dunghill, (being preſſed out and ſtrained) then dry them a little, and moiſten them as before; do this four or five times: put this Mixture, not being very dry, nor very moiſt, into an Earthen Veſſel, and in it ſet Seeds of Lettice, Purſlain, or Parſley; (for they will grow ſooner than other Seeds) being firſt impregnated with the Eſſence of a Vegetable of its own Species: (ſome ſay the juice of the ſame Plant, but eſpecially the Spirit will do inſtead of the Eſſence) till they begin to ſprout forth; which then put into the ſaid Earth, with that end upwards which Springs. Put the Veſſel into a gentle heat, and when it begins to dry, moiſten it with the ſaid juice of Dung: Thus may you have a Sallet while Supper is making ready.

XIII. *To reduce a whole Vegetable into a Liquor, which may be called the Eſſence thereof.*

Take the whole Plant with Flowers and Roots, bruiſe them in a Mortar, put all into a large Glaſs Veſſel, (but a Wooden one is better) ſo that two of three parts may be empty; cover it exceeding cloſe, and let it ſtand in Putrefaction in a moderate heat for a year, and it will all be turned into a Water.

XIV. *To*

XIV. *To make the Lively Form and Idea of any Plant appear in a Glaſs.*

Take the former Water (at Sect. 13.) Diſtill it in a good Glaſs in Aſhes, and there will come forth a Water and Oil, and in the upper part of the Veſſel a Volatile Salt: the Oil ſeparate and keep by it ſelf; with the Water diſſolve the Volatile Salt, and purify it, by Filtering and Coagulating. This purified Salt imbibe with the ſaid Oil, until it will imbibe no more; Digeſt them well together for a Month in a Veſſel Hermetically Sealed; ſo will you have a moſt ſubtil Eſſence, which being held over a gentle heat, or the Flame of a Candle, by which means it may be made hot, you will ſee the fine Subſtance, (which is like impalpable Aſhes or Salt) ſend forth from the bottom of the Glaſs, the manifeſt Form and Idea of the Vegetable, vegetating and growing by little and little, and putting on ſo fully the form of Stalks, Leaves and Flowers, in ſuch perfect and natural wiſe, that one would believe the ſame to be real; when as in truth it is the Spiritual Idea, ariſing with the Spiritual Eſſence of the Plant; this, were it joined with its proper Earth, would take to it ſelf a more ſolid Body. Now as ſoon as the Veſſel or Glaſs is removed from the Fire, this Idea or Repreſentation vaniſhes, becoming a Chaos and confuſed Matter, returning to its Sediment, from whence it aroſe.

XV. *Another way to make the Eſſence of a Plant.*

Put the Herbs, Flowers, Seeds, Spices, *&c.* into rectified Spirit of Wine; extract a very ſtrong and deep Tincture, upon which put ſtrong Oil of Salt, and Digeſt in *Balneo*, till an Oil ſwim above, which ſeparate; or elſe draw off the Spirit of Wine in *Balneo*, and the Oil or Eſſence will remain at bottom: but before the Spirit of Wine is abſtracted, the Oil or Eſſence will be Blood red.

XVI. *Another way to make the true Eſſence, or rather Quinteſſence.*

Make the Water, Oil, and Volatile Salt, as before is Taught; and from the Fœces extract the fixed Salt, which purify according to Art; which Salt reſolve in a Cellar upon a Marble Stone to an Oil, which is that we call *per Deliquium*; filter it and evaporate, till the Salt is white as Snow, with theſe Salts imbibe as much of the Oil as you can make it receive; then digeſt till the Oil will not

ſeparate

eparate from the Salt, but become a fixed Pouder, melting with an eaſie heat.

XVII. *To make the form of a Firr Tree appear in Colophonia.* Diſtill Turpentine in a Retort *gradatim:* when all is Diſtilled off, keep the Retort ſtill in a reaſonable heat, hat what humidity is ſtill remaining may be evaporated, nd it become dry. Take it then off from the Fire, and old your hand to the bottom of the Retort, and the urpentine which is dryed, (called alſo Colophonia or oſin) will crack aſunder in ſeveral places, and in thoſe racks or Chaps, you ſhall ſee the perfect figure of Firr rees, which will there continue many Months.

XVIII. *To make Harts Horn ſeemingly grow in a Glaſs.* Take Harts Horn broken into ſmall bits, and put them nto a Glaſs Retort to be Diſtilled, and you ſhall ſee the Glaſs to be ſeemingly full of Horns; which will continue here ſo long, till the Volatile Salt be come over.

XIX. *An Excellent Invention to make a pleaſant Fire.* Take of the beſt New Caſtle Coals 3 parts beaten ſmall: Loam one part: mix them well together into a Maſs with Water, of which make Balls, and dry them very well. This Fire is durable, ſweet, and not offenſive, by reaſon of the Smoak or Cinders, as other Coal Fires are, but Burns as well in a Chamber as Charcoal it ſelf. And this Fire may ſerve alſo for Diſtillation.

XX. *To make a durable and laſting Oil.* 1. Take unſlaked Lime, Bay-Salt, Oil Olive, of each a like quantity; mix them well together, and Diſtill in Sand: Cohobate the Oil upon the ſame quantity of freſh Lime and Salt: this do 4 times. 2. The Oil by this means will be clear, and impregnated with what Salt was Volatile in the Lime and Salt. 3. If it be ſeven times Diſtilled, it will be as pure, odoriferous and ſubtil, as many Diſtilled Oils of Vegetables. 4. This Oil whilſt a Diſtilling, has a moſt fragrant Smell, and of a moſt durable quality, which durability comes from the Saline Impregnation: beſides which, it is good againſt any inveterate Ach or Pain in the Limbs, or other parts. 5. A Lamp made with this Oil, will burn ſix or ſeven times as long, as that which is made with other Oil; alſo it burns very ſweet. 6. You ought to be very cautious in making of it, or elſe your Glaſſes will quickly break. 7.

You

You muſt take very ſtrong Lime, ſuch as your Dyers uſe, and call *Cauk*.

XXI. *To make a Candle that ſhall laſt long.*

Mix with your Tallow unſlaked Lime in Pouder: Or make your Candles of Caſtle Soap: ſuch Candles as theſe will be admirable for Lamp Furnaces. Now it is the Salt in the Lime and Soap, that preſerves the Tallow from burning out ſo faſt, as otherwiſe it would.

XXII. *To make the Diſtilled Oil out of any Herb, Seed, Flower, or Paper, in a moment, without a Furnace.*

You muſt have a long Pipe made of Tin, or Tobacco-Pipe Clay, with a hole in it as big as a ſmall Wallnut, three or four Inches from one end of it, into which you muſt put the matter you would have the Oil of: ſet it on Fire with a Candle or a Coal: then put one end of the Pipe into a Baſon of fair Water, and blow at the other end, ſo will the Smoak come into the Water, and the Oil will ſwim upon it, which you may ſeparate with a Funnel.

XXIII. *To reduce Roſin into Turpentine again.*

Take Oil of Turpentine and the Colophonia, or Roſin thereof, in Pouder: mix theſe together, and Digeſt them, and you ſhall have Turpentine of the ſame conſiſtency it was before, but of a more fiery and ſubtil Nature: Pills made hereof are more excellent for opening Obſtructions of the Breſt, Lungs, Kidneys, Bowels, *&c.* than thoſe that are made of raw Turpentine.

XXIV. *To Write or Engrave upon an Egg, Pibble, Flint,* &c.

Write what you pleaſe with Wax or Greaſe upon an Egg, Pibble, Flint, *&c.* then put it into the ſtrongeſt Spirit of Vinegar, or Oil of Salt, letting it lie two or three days; and you ſhall ſee every place about the Letters or Writing, eaten or conſumed away; but the place where the Wax or Greaſe was not at all touched.

XXV. *To make a Pouder, which being wetted ſhall be kindled.*

1. Take a Loadſtone, pouder it, and put it into a ſtrong Crucible, cover it all over with a Pouder made of Calx Vive and Colophonia, of each a like quantity; put alſo ſome of this Pouder under it: when the Crucible is full, cover it, and lute the cloſures with Potters Earth, put it into a Furnace, and there let it Boil; after

ke it out, and put the matter into another Crucible, nd ſet it in a Furnace alſo; this do till it becomes a ery white and dry Calx. 2. Take of this Calx one part: al Niter well purified four parts: and as much Camhire, Sulphur Vive, Oil of Turpentine and Tartar: rind what is to be Ground to a ſubtil Pouder. and ut all into a Glaſs Veſſel, with as much well rectified pirit of Wine, as will cover them two inches over. 3. top the Veſſel cloſe up, and ſet it in Horſe Dung three Months, ſo will all the matter become an uniform Paſte: vaporate all the Humidity, until the whole Maſs bemes a very dry Stone; which take out, pouder it, and eep it very dry. 4. If you take a little of this Pouder, nd ſpit upon it, or pour ſome Water thereon, it will ake Fire preſently; ſo that you may light a Match, or ny ſuch thing by it.

XXVI. *To make a Room ſeem to be on Fire.*

Take rectified Spirit of Wine, and diſſolve Camphire herein; evaporate this in a very cloſe Chamber, where no Air can get in; and he that firſt enters the Chamber with a lighted Candle, will be amazed; for the Chamber will ſeem to be full of Fire, and very ſubtil, but of little ontinuance. This done in a cloſe Cupboard or Preſs, will be much more perſpicuous and viſible.

XXVII. *To make the four Elements appear in a Glaſs.*

Take Jet in fine Pouder an Ounce and half: *Oleum Tartari per deliquium*, (made without addition of any Water) two Ounces, coloured with a light Green, with Verdigriſe: add thereto Spirit of Wine, tinged with a light Blew, with Indico, two Ounces: of the beſt rectified Spirit of Turpentine, tinged of a light Red with Madder, two Ounces: mix all theſe in a Glaſs, and ſhake them together, and you ſhall ſee the heavy black Jet fall to the bottom, and repreſent the Earth: next the Oil of Tartar made green falls, repreſenting the Water: Upon that ſwims the Blew Spirit of Wine, repreſenting the Air or Sky: And uppermoſt of all will ſwim the ſubtil, ed Oil of Turpentine, repreſenting the Element of Fire. It is ſtrange to ſee how after ſhaking all theſe together, they will be diſtinctly ſeparated one from another. If it be well done, (as it is eaſie to do) it is an Admirable and Glorious Sight.

XXVIII. *To repreſent the whole World in a Glaſs.*

Take

Take the fineſt Sal-Niter, what you pleaſe; Tin, half ſo much: mix them well together, and Calcine them Hermetically: then put them into a Retort, to which adjoin a Glaſs Receiver, with Leaves of Gold, put into the bottom thereof; lute them well together; put Fire to the Retort, until Vapours ariſe that will cleave to the Gold: augment the Fire till no more Fumes aſcend: then take away the Receiver; cloſe it Hermetically, and make a Lamp Fire under it; and you will ſee repreſented in it, the Sun, Moon, Stars, Fountains, Trees, Herbs, Plants, Flowers, Fruits, and indeed, even all things after a very wonderful manner.

XXIX. *To make a perpetual motion in a Glaſs.*

Take Quickſilver, Tin, *ana* ſeven Ounces: pure Sublimate fourteen Ounces: diſſolve in a Cellar upon a Marble, (which in four days will become like Oil Olive) mix and diſtill in Sand, and there will Sublime a dry Subſtance: put the Water which Diſtills off back upon the Earth, in the bottom of the Stillatory, and diſſolve what you can: Filter it, and Diſtill it again, and this do four or five times; then will that Earth be ſo ſubtil, that being put into a Vial, the ſubtil Atoms thereof will move up and down for ever: but you muſt be ſure to keep the Glaſs cloſe ſtopt, and in a dry place.

XXX. *To make Regulus of Antimony, for Antimonial Cups.*

Take Antimony in Pouder, Niter, of each a Pound: crude Tartar in fine pouder two Pounds: mix, put them into a Crucible, cover the Crucible, and melt, ſo will the *Regulus* fall to the bottom, which pour into a braſs Mortar ſmeared with Oil. *Or thus.* Take Antimony poudered two Pounds: crude Tartar in pouder four Pounds: melt as before. This *Regulus* you may caſt into Cups, Pictures, Medals, or what Figures you pleaſe: Theſe infuſed in two or three Ounces of Wine in an Earthen glazed Veſſel, or in a Glaſs, in a gentle heat all Night, gives you a Liquor in the morning which will Vomit: Doſe from two Drams, to two Ounces and a half; you may ſweeten it if you pleaſe with a little as white Sugar. Theſe Cups or Pictures will laſt for ever, and be as effectual after a thouſand times Infuſionat firſt.

Explicit Liber Septimus.

POLY-

POLYGRAPHICES

LIBER OCTAVUS.

Faber's Arcanum's.

Containing the 112 Chymical Arcana of *Peter John Faber*, a moſt Eminent and Learned Phyſician.

Tranſlated out of Latin *into* Engliſh, *By* William Salmon, *M. D.*

CHAP. I.

The higheſt Tincture of Sol, *fixed, for* Luna.

TAKE of Gold and Venus, of each equal parts, melt them together in a ſtrong Crucible, then beat them into thin Plates, and cement them together with a part of the following Cement.

II. Take Antimony and Cinnabar A. ℥ij. Lapis Hæmatitis, common Vitriol calcined red, common Salt prepared, A. ℥j. Bole Armoniack ʒß. German Azure ſtone ʒß. reduce all into a fine Pouder, which ſtrew upon the aforeſaid Plates (in a ſtrong Crucible) *Stratum ſuper Stratum*.

III. Cement them together with a Fire of Reverberation for twelve hours; then take out the Crucible, and melt the Metal within it: how much of the Venus is carried away in Fumes, you may know by weighing it.

IV. Repeat the Work again with new Venus extracted from the Mine, by melting them, beating them into Plates, and cementing again with the aforesaid Pouder for other twelve hours, with a reverberatory Fire.

V. Continue the Repetition for twelve times, always adding new Venus; so shall you have at last a most rubicund Gold, one part of which being put upon twelve parts of fixed Luna, shall transmute it into most fine Sol; and by this is Gold multiplied.

CHAP. II.

The manner of fixing Luna.

I. TAke of the best Luna calcined with Mercury, as much as you please, reduce it into fine Pouder, and mix it with an equal quantity of the (*a*) Cinnabar of Antimony.

II. Sublime, and in every Sublimation, renew the Cinnabar for three times: what remains in the bottom after the third Sublimation, dissolve in this following Aqua fortis:

III. Take Niter and Vitriol A. ℔j. Antimony and Verdigrise A. ℥iij. mix them, and make an Aqua fortis according to Art.

IV. In the prescribed A. F. dissolve the above prepared Luna; hastening the Dissolution in warm Ashes for three days; after the third day draw off the Aqua fortis by Distillation.

V. That which remains in the bottom, reduce into a body with Borax, so is it fixed and tinged, and after a wonderful manner will embrace the above prepared Tincture of Gold.

VI. And this is the way by the help of which the Tincture of Venus is drawn out of the body of Venus and

and is transmitted fixed into the body of Sol, and out of Sol again into fixed Luna.

(a) *Some suppose, that for want thereof, you may use Hungarian Cunabar.*

CHAP. III.

The White fixed Tincture for Venus.

I. ℞ MErcury sublimate ℔ß. or as much as you please; of the most pure and limpid Oil of Tartar ℔j. Borax ℔ij. dissolve the Borax in distilled Vinegar a sufficient quantity; filtrate the Dissolution, which being clear and limpid, join with the former Oil of Tartar; then mix with them the Mercury sublimate in fine Pouder, and let it be dissolved in warm Ashes.

II. Upon that which will not be dissolved, put new Oil of Tartar conjoined as before, with the Dissolution of Borax.

III. Then distil the Dissolution in Ashes; and upon what remains in the bottom, put new Oil of Tartar and Borax as before, till the Mercury shall become in the bottom of the Alembick like Wax, flowing with a very gentle heat, and congealing with cold.

IV. Project one part of this Oil of Mercury, upon ten parts of melted Venus, and it will be all good Silver: And so the fixed Oil of Mercury tinges Venus both within and without, that the Tincture remains for ever.

CHAP. IV.

The fixed Oil of Mercury.

I. ℞ MErcury sublimate, and Sal Armoniack Ana, as much as you please; sublime them both together four times, or till there shall remain in the bottom

of the ſublimatory, a great quantity of fuſible Mercury, and in the neck of the Retort the Sal Armoniack.

II. Break the Retort, reduce the Mercury into Pouder, which diſſolve in (*a*) diſtilled Vinegar: filtrate the Solution, and diſtil the Vinegar: what remains in the bottom diſſolve again in freſh diſtilled Vinegar.

III. At length diſſolve it in common diſtilled Water, which Solution do ſo often, till the Mercury is converted into a pure Oil, which is able to diſſolve all things; but moſt powerfully Gold and Silver.

IV. And Gold and Silver, diſſolved in this Oil of Mercury, and cocted or digeſted till they are converted into a fixed Oil, or fixed Salt, will make a wonderful Projection upon Venus, yea upon crude Mercury.

V. The reaſon is, becauſe that this Oil or Salt being (*b*) fixed, converts the ſame Metals into fine Silver.

VI. If this Salt be made Volatile, and then fixed again, it will be a more powerful Arcanum.

(a) *There is intended Spirit of Vinegar.* (b) *The Oil or Salt is not fixed, but is ſo called in reſpect of the end or intention which is to fix; for no fixed thing can fix a volatile thing, for fixity demonſtrates nothing but deadneſs, and no dead thing can invade another's Property: this is apparent to be intended, by the very Propoſition following theſe words.*

CHAP. V.

The Red Cinnabar of Antimony.

I. TAke of the beſt Antimony and Mercury ſublimate, Ana: diſtil them by a Retort: and to the matter remaining in the Retort, add new Mercury ſublimate, and diſtil again as before.

II. At length, force the matter with a ſtrong Fire, ſo will the Cinnabar of Antimony be ſublimed in the neck of the Retort; which for three days is to be continually in the Retort, till it is very red.

III. But the Liquor which diſtils from the Mercury ſublimate and Antimony, highly rectify by Diſtillations, till it emits no faces.

IV. T

IV. To this put Mercury ſeven times ſublimed, and, by various and many reiterated Diſtillations it will be fixed; which you will the more eaſily obtain, if you add the former (*a*) deſcribed Oil conjoined with Luna, and fix them together by reiterated Cohobations.

V. Thus have you the Oil of Mercury and Antimony, which is admirable to tranſmute Jupiter into Luna, by putting one part upon ten parts of melted Jupiter.

(a) *That Oil is intended at ſect. 4. chap. 4. aforegoing.*

CHAP. VI.

A fixed Tincture to project upon Venus.

I. TAke fixed Oil of Tartar, (as we ſhall hereafter teach) Sulphur Vive, A. ℥ij. mix them, and make a paſte, which put into a Retort, and diſtil, ſo have you a red Liquor.

II. This Liquor put with crude Mercury into a Glaſs Retort, draw it off again by Diſtillation, and the Mercury will be fixed at bottom of the Retort.

III. You may project with this fixed Mercury upon Venus fuſed in a Crucible (one part upon five parts of Venus) but it will not be able to make a Tranſmutation, except that the fixed Tartar be conjoined with Luna in a fixed Oil.

IV. The reaſon is, becauſe there is no fixed Tincture can be made to tinge, without the perfect Metal is converted into an Oil or fixed Salt, from whence is made a fixed Oil by a conſtant and through boiling.

CHAP. VII.

The fixing of Oil of Tartar.

I. TAke Tartar calcined to whiteneſs; diſſolve it in common Water, filter and make it very pure.

II. Then in a Glaſs Urinal, over a gentle heat in Sand, evaporate the Humidity, till a skin or ſuch like appears to cover it on the top.

III. That ſign appearing, put in a little fair common Water; and boil it again, till a skin appears on the ſuperficies or top of it.

IV. Put again to it a little common fair Water, and boil it again, till you ſee a skin again appear to cover it.

V. Put again more Water, and boil it again, till a skin covers it again: This do ſo many times and ſo long till no more skin will appear to cover it, for then it is fixed, and will remain or endure fuſion in the Fire.

CHAP. VIII.

To fix the Oil of Sal Armoniack.

I. TAke Sal Armoniack ℔j. Quick-lime ℥viij. common Water ℥ſs. mix and incorporate them together, put them into a ſtrong Crucible, which cover and lute very well, putting it in a cementing Fire for four hours, then taking it out.

II. Diſſolve the matter in common warm Water, and make it boil for an hour, then filter, and make the Liquor very clear.

III. This Liquor evaporate, and congeal the Sal, which then mix together with the White of an Egg.

IV. Put this into a moiſt place to diſſolve into Oil, moſt glorioufly fixed: to which conjoin an equal quantity of Mercury ſeven times ſublimed, by cohobating upon the matter which will not ſublime, till they are both brought into a fixed Oil.

V. One part of this Oil put upon melted Venus ℔j. tinges it admirably white, which whiteneſs will remain for ever.

VI. But if you conjoin this Oil with Oleum Lunæ, it will be much more noble and perfect.

CHA

CHAP. IX.

A wonderful Red Tincture extracted from Vitriol.

I. TAke Roman Vitriol calcined to Redneſs, diſſolve it in diſtilled Vinegar with filtrate, and make very clear, evaporate, deſiccate, and congelate it and reduce it into a very ſubtil Pouder.

II. Imbue it till it grows moiſt with Water of Sal Armoniack, extracted by Diſtillation, and dry it with a gentle Fire.

III. Imbibe it again with Water of Sal Armoniack, drying it as before; this do ſo many times, till it has drunk up ſo much of the Watter of Sal Armoniack, as the Vitriol it ſelf did weigh.

IV. Put the matter ſo imbibed in a large Glaſs Matreſs well ſtopped, which place in a hot Bath for fifteen days, or in Horſe Dung, which keeps more the equality of the heat.

V. Then take the Vitriol out of the Matreſs, and put it into a well luted Retort, from which diſtil with a gentle Fire, to drineſs, or ſo long till no more will come forth.

VI. After augment the force of the Fire gradually, till the Spirit comes forth, and continue it in the ſame degree, till all the Spirits are come over.

VII. Let the Fire be yet augmented, till the Retort grows red and is perfectly hot, ſo will the Vitriol be rubified.

VIII. *That* you ſhall join with the matter found ſublimed in the neck of the Retort, by beating them together: which mix with their own Water contained in the Recipient, by imbibing, beating and drying ſo long till all the Water is infuſed, and imbibed into the ſaid Vitriol.

IX. And the Sublimation is to be reiterated, joining the volatile matter with the fixed; ſo will there be a matter fixed, and very red as Blood.

X. *This* you muſt reduce into Pouder; put it into a ſtrong Glaſs Phial, which cloſe well; bury it in a cold

and moiſt place for fifteen days or more, till it is diſſolved into a moſt red Water, which filter and make very clear.

XI. Project this upon Mercury ſeven times ſublimed, ſo will it be rubified, and converted into a red Oil.

XII. This Oil conjoin with an equal quantity of the Oil of Gold, which you ſhall fix together in a Retort, by abſtracting the Humidity with a gentle Fire, ſo have you a perfect Medicine.

XIII. One part of this Medicine being put upon a thouſand parts of crude Mercury, warmed in a Crucible; or upon a thouſand parts of Luna, or of any other imperfect Metal, it will convert them into the moſt pure Gold.

CHAP. X.

To make the aforeſaid Oil of Gold.

I. TAke of Sol as much as you pleaſe, diſſolve it in Royal Aqua fortis wherein Sal Armoniack or common Salt is diſſolved.

II. Keep warm the Diſſolution for fifteen days, then abſtract the A. F. by Diſtillation, cohobating the diſtilled Water many times upon the matter remaining in the bottom of the Stillatory.

III. Renew the A. F. three times, till the Sol remains converted in the bottom of the Veſſel into a red Oil.

IV. Diſſolve a quantity of this Oil in Aqua Ardenti deflegmated, and let them be conjoined.

V. Afterwards abſtract the Aqua Ardens or Spirit of Wine, and the Oil of Sol will remain in the bottom of the Veſſel.

VI. This Oil conjoin with the aforeſaid (*a*) ſublimated Mercury, ſo have you indeed a perfect Medicine.

(a) *At ſect.* 10. *and* 11. *of chap.* 9. *aforegoing.*

CHAP.

CHAP. XI.

To make an increaſe of Gold and Silver.

I. TAke of the beſt foliated Sol ℥j. of the beſt Mercury ℥iiij. mix them together, and make an Amalgama.

II. Then take of common Salt decripitated, as much in weight as is all your Amalgama, which mix together by beating.

III. Put them into a Glaſs Retort in Aſhes, and diſtil with a very ſtrong Fire, ſo will the Mercury aſcend, and be ſeparated from the Gold, which will remain in the bottom of the Veſſel.

IV. The Gold waſh with common fair Water ſo long till it has no taſt of the Salt.

V. Then take it out and melt it alone, and you ſhall find your ounce of Gold to be encreaſed a whole drachm, *viz.* for your ℥viij. you will have ℥ix.

VI. This Gold, if you cement with the Cement deſcribed in (*a*) our firſt Arcanum, and then again amalgamate it with the former Mercury, you ſhall multiply the Gold more and more, even till all (*b*) the Mercury is tranſmuted into Gold.

VII. And by many times cementing the Gold, and amalgamating it with Mercury, and mixing it with decripitated Salt, as is afore ſaid in this Arcanum, you will have a very high and large Augmentation.

(a) *See chap.* 1. *ſect.* 2. (b) *Till a great part of it is tranſmuted.*

CHAP. XII.

A fixed Tincture for Venus.

I. TAke filings of Venus ℔j. of the beſt Mercury waſhed ℔ij. beat them with Vitriol in a Marble Mortar, till they are amalgamated together. II.

II. This Amalgama beat, and by many Lotions make it purely white, to which add Sal Armoniack ℔j. white Arſenick ℥vj. white Tartar ℥j. common Salt decripitated ℥j.

III. Beat all together, and imbibe the Pouder with diſtilled Vinegar, till the maſs becomes of the body and thickneſs of Honey.

IV. Put it into a Retort, and diſtil to dryneſs, or as much as you can make come over; and what ſublimes, put upon the Fæces, and mix them by beating or grinding.

V. This Mixture imbibe with new diſtilled Vinegar (a) ſo long till nothing will aſcend, but all remains fixed in the bottom.

VI. This fixed matter beat, and mix it with the Whites of Eggs, dry it with a gentle heat, and put it into a Pot (not of Glaſs or glazed) with a fit Cover well luted to it, and calcine it in a ſtrong Fire, for one whole day.

VII. Then diſſolve the matter in (b) Mineral diſtilled Vinegar, filtrate and make it very clear; then evaporate the Vinegar by Diſtillation to dryneſs.

VIII. Diſſolve it again, filter and clarify, which four times repeat, till your fixed matter remains in the bottom of the Alembick, like running Oil.

IX. One part of this, conjoined and melted with as much of the beſt Luna, is ſufficient to be put upon thirty parts of purging Copper.

X. And if the matter be oftentimes diſſolved in Mineral diſtilled Vinegar, and as often coagulated and diſſolved again, at length one part will be enough to caſt upon an hundred parts of purified Copper.

(a) *Diſtilling again to dryneſs, and imbibing and diſtilling.* (b) *This Mineral Vinegar ought to be extracted with Niter, or common Salt, for then alone it makes the Solutions and Coagulations.*

CHAP.

CHAP. XIII.

The Purgation of Venus *for the former Tincture.*

I. TAke an hundred Whites of Eggs, beat them together with a Stick, till they are converted into a Glair or Water.

II. In this Water put hot (*a*) Eggſhels to the quantity of ℔j. crude Tartar ℔j. put them into a Glaſs Veſſel, ſtop it cloſe, and digeſt it in warm Horſe Dung for eight days; then diſtil a Water therefrom by a Retort.

III. In this Water quench fuſed and melted Copper three or four times; ſo will it be prepared and purged to receive the former Tincture.

(a) *The word the Author uſes is* Calens, *but in what ſenſe is ſomewhat difficult to be underſtood; if the thing he intends, be only dryneſs, doubtleſs they only ought to be made hot or warm: but if Incineration, they ought to be made red hot, or calcined.*

CHAP. XIV.

To congeal or harden Mercury.

I. TAke of Mercury thus prepared as much as you pleaſe. Let the Mercury boil in the Juice of Limons for ſix hours; then boil it again for ſix hours in the Juice of Bears Breech; and then for other ſix hours in common Oil and Vinegar mixt together in equal quantity.

II. The Mercury thus prepared, put into a ſtrong Glaſs Matreſs well luted with this following Lute.

III. ℞ Calx viva well beaten, Tartar well beaten, and common Salt A. q. s. (*a*) make a Paſte with Whites of Eggs, of which make Lute; and with which let the Matreſs, wherein is the prepared Mercury, be luted according to Art.

IV. Let

IV. Let the Matreſs have a very narrow mouth, which cloſe very well with a Glaſs Stopple, and the aforeſaid Lute. (*b*)

V. Then put it into a gentle Fire in Aſhes for three hours, afterwards increaſe the Fire, and continue the ſame degree of heat for another day.

VI. This done, break the Glaſs, and you ſhall find the Mercury tranſmuted into good Luna.

(a) *You may ſee the way of making ſeveral other good Lutes fit for this Purpoſe in our* Pharmacopœia Londinenſis *lib. 6. cap. 5. ſect. 3, 5, 10.* (b) *If the neck be narrow enough, you may give it the Hermetick Lute at ſect. 14. of the aforecited place.*

CHAP. XV.

With the Regulus *of Antimony to make* Gold.

I. TAke Regulus of pure Antimony, fine Gold and Silver, of each equal parts, melt and make them run in a Crucible, ſo have you a friable or brittle matter like Glaſs.

II. Beat and pouder it, and make an Amalgama with ℥iij. thereof with the Mercury of Antimony ℥ix. which ſhut up in a Matreſs well cloſed.

III. Put it upon a gentle Fire for a Month; but in ſuch a Fire, as in a Month may inſpiſſate it, and make it grow black.

IV. In the ſecond Month increaſe the Fire, or bury the Matreſs again more deeply in Aſhes; but ſo increaſe the Fire, or bury it ſo much the more deeply, as that the matter may grow up into a mineral Tree.

V. Continue this degree for a Month; at length for eight days augment the Fire, till the matter is melted.

VI. This matter amalgamate again with new common Mercury well waſhed; and boil it again for three Months, as before, augmenting the Fire.

VII. Thus have you the matter of the Projection, one part of which being put upon ten parts of Luna, tranſmutes it into fine Gold.

VIII. This

VIII. This matter, if it be throughly and perfectly depurated by Sublimation, and then fixed ſo as to be a Pouder, fuſible like Wax or Butter, you have the Pouder of Projection to be put upon all Metals, one part upon a thouſand of any impure Metal.

IX. And if moreover this matter be yet diſſolved in mineral diſtilled Vinegar, and then coagulated, it adds much more to the perfection of the Work.

X. And if it be often diſſolved in common Water diſtilled and coagulated, ſo that the matter be made (*a*) ſweet, it works perfectly, and cures all Diſeaſes, both in Mankind and Metals.

XI. Theſe Solutions being very often iterated or repeated with fair common Water, it will be converted into a ſweet red Oil.

(a) *That is meant ſweet, as being freed from the Salts or corroſive Acidity of the Spirits of the mineral Vinegar.*

CHAP. XVI.

For the making of Sol.

I. TAke Niter, Verdigriſe, Sulphur vive, Roman Vitriol, A. ℔ſs. Sal Armoniack ʒiv. Cinnabar ʒij. reduce them into a fine Pouder and mix them.

II. Put them into a luted Retort, and diſtil therefrom an Aqua Regis, obſerving the degrees of Fire.

III. In this A.R. diſſolve of the beſt Sol ʒj. then in another Matreſs, diſſolve a part of the beſt Mercury well waſhed ʒiv.

IV. Conjoin the Diſſolutions, and with a gentle Fire ſeparate the Aqua Regis, cohobating (the Water drawn off) thrice, upon the matter remaining in the Retort.

V. And put common Water often diſtilled (when the aforeſaid A.R. is ſeparated) upon the Fæces, which diſſolve, filter and clarify; this often iterate, ſeparating the A.R. which at laſt will all come forth.

VI. Then put upon the matter the firſt Water which is ſweet, that at length it may ſweeten the matter remaining

maining in the bottom of the Stillatory, and convert it to a ſweet and fixed Oil.

VII. One part of this Oil put upon twenty parts of (*a*) Saturn or Luna, will convert it into Gold.

(a) *You muſt prepare your Saturn, or you will do nothing.*

CHAP. XVII.

For the whitening of Copper.

I. ℞ COmmon Salt calcined ʒſs. Quicklime ʒſs. Arſenick calcined ʒj. Tartar calcined ʒſs. fixed Salt Armoniack, Borax A. ʒij. Mercury ſublimed (*a*) ſeven times as much; mix, and make of all a Pouder.

II. Calcine it (*b*) for an hour, then diſſolve it in (*c*) diſtilled Vinegar, filter and evaporate the Diſſolution.

III. Calcine it again a little, and diſſolve again in diſtilled Vinegar; this Work ſo often repeat, till you have a Salt fuſible as Wax, and an incombuſtible Oil.

IV. One part of this put upon p x. of (*d*) purged Copper aforementioned, converts it into good Silver: this is the beſt whitening of Copper.

(a) *I ſuppoſe there is intended* ʒxiv. or xlvſs. (b) *You muſt calcine it very gently, leſt you loſe your Labour.* (c) *Whereſoever you meet with diſtilled Vinegar, always underſtand the Spirit thereof, or that from which the flegm is abſtracted.* (d) *The way is taught in chap.* 13. *aforegoing.*

CHAP. XVIII.

The Cementation of Sol.

I. TAke Roman Vitriol ℥ij. Sal Armoniack ℥j. Verdigriſe ʒſs. *Crocus Martis*, Niter, A. ʒj. mix and make a Pouder, which ſublime till it will ſublime no more.

II. Then

II. Then diſſolve it in putrified Urine, filter, clarify and evaporate the Solution; that which remains at bottom, is the ſecret Cement.

III. Take (*a*) Luna and Gold of each ℥j. melt them together, and let the Maſs be beaten into (*b*) thin leaves, which cement with its equal weight of the foregoing Pouder, and the whole Maſs will be tranſmuted into fine Gold.

(a) *You muſt take cupellated or fine Luna.* (b) *I ſuppoſe very ſmall filings, made with a very fine File, may do the work nearly as well.*

CHAP. XIX.

Oil of Sulphur Vive.

I. TAke of Tartar calcined ℔j. Sulphur Vive ℔ſs. beat them into Pouder, and put it into a Retort, cloſing it well, which keep ſo for two days, without Diſtillation.

II. That time being paſt, diſtil by Aſhes with a ſtrong Fire, ſo ſhall you have a wonderful Oil, which certainly cures the Falling-ſickneſs, if about gut. x. be taken for ſome days together in a Morning faſting. (*a*)

III. So alſo Mercury prepared, as we have before declared in Chap. XIV. cures the Falling-ſickneſs, being given (*b*) in gr. x.

IV. And if it be caſt upon throughly melted Venus, it perfectly whitens it.

(a, b) *In a convenient Vehiculum, as Eſſence of Peony, Wine of black Cherries, or ſome ſuch like Liquor.*

CHAP.

CHAP. XX.

A Tincture for Sol.

I. TAke of Sol ℥j. of Luna ℥ſs. of the beſt Mercury waſhed ℥ij. make an Amalgama, which put into a Glaſs body well cloſed.

II. Set it in a gentle heat for twenty or thirty days, till the Amalgama is converted into a red Pouder.

III. Join this with new Mercury, and boil (or digeſt) again till it is fixed, which work repeat four times, and diſſolve it in the following Aqua fortis.

IV. Take Roman Vitriol, Filings of Mars, Sulphur vive, Niter, common Salt, A. ℔ſs. from all which prepare a Water by Diſtillation, which will be very red.

V. In this Water diſſolve the aforeſaid matter, prepared from Gold, Silver and Quick-ſilver.

VI. Then abſtract the Aqua fortis, and cohobate oftentimes till the Water comes forth white.

VII. Diſſolve again in mercurial Vinegar diſtilled; filter, clarify and abſtract the Vinegar.

VIII. After that diſſolve the matter again in common Water diſtilled; then filter, clarify and abſtract the Water, till the matter remains in the bottom of the Veſſel, converted into a running Oil, or fuſible Salt.

IX. Caſt p j. of this Oil or Salt upon crude Mercury made pretty hot p 100. and the whole will be converted into good Gold.

CHAP. XXI.

The Extraction of Mercury from Antimony.

I. TAke Antimony ℥viij. pouder it finely, and put it into Capacious Matreſs, upon which put the beſt Aqua Vitæ ℔ij. Salt of Tartar ℥vj. Sal Armoniack ℥ij. mix them well together in the ſame Matreſs: ſtop it up cloſe, and putrefy in warm Horſe Dung for fifteen days.

II. Then

II. Then take it forth, and circulate it (being yet close ſtopt) eight days.

III. After boyl it for two days, and you will find the Mercury in the bottom running, and Volatile: Out of every Eight Pound of Antimony, you will have running Volatile Mercury ℥v.

IV. This is the beſt Mercury for the performance of the Preparation of that Arcanum at *Chap.* 15. aforegoing.

CHAP. XXII.

An Elixir of the Golden Work.

I. SUblime Mercury ſeven times with common Salt prepared, and at laſt ſublime the ſame five or ſeven times with Sal Armoniack, till the Mercury remain at the bottom fuſible as Wax.

II. This Mercury diſſolve in mineral diſtilled Vinegar, filter the Solution, and coagulate, by diſtilling from thence the Vinegar.

III. Diſſolve the Mercury in the Vinegar, which repeat three or four times till the Mercury will melt as Wax.

IV. This Mercury thus prepared, diſſolve in pure diſtilled Rain Water, then coagulate, which do many times; and at length diſſolve it in the humidity of the Air.

V. To this clear and limpid Solution add the Calx of Sol (prepared with Mercury and common Salt) which diſſolve alone into a moſt rubicund Liquor.

VI. This Liquor by many Solutions and Coagulations, convert into a fixed Oyl and a pure Elixir.

VII. Being caſt upon a thouſand parts of fine Luna, it will tranſmute it into the pureſt and beſt Gold.

CHAP. XXIII.

Of Drawing forth the Virgins Milk.

I. TAke Mercury ſeven times ſublimed ℔i. Diſſolve it in this following Water.

II. Take May Dew ſix times Diſtilled, common Aqua Fortis ſeven times Diſtilled A. ℔j. mix them together, and Diſtill by a Retort two or three times, ſo have you a very ſharp Vinegar.

III. In this you muſt diſſolve your aforeſaid ſeven times ſublimed Mercury, which Diſſolution putrify for a Month in warm Horſe-dung.

IV. Then Diſtill, and always conjoyn the Water which Diſtills over, with that part of the Mercury which remains at the bottom, till all the Mercury aſcends by Diſtillation, which will quickly be done if the Artiſt be a wiſe ſearcher out of Nature.

V. For the Water of May Dew muſt be augmented when the dry Water aſcends from the Mercury remaining in the bottom.

VI. Which Mercury is ſo often to be diſſolved in the Diſtilled Water of May Dew, till at length it all aſcends Acid.

VII. This is that which is called Lac Virgineum, or Virgins Milk, and the moſt ſharp Diſtilled Vinegar (a) fitted for the Diſſolution of all Metalick Bodies, converting them into a fuſible Salt, and a fixed Incombuſtible Oyl.

VIII. By the help hereof all Our Arcanums are moſt perfectly compleated, without it nothing true can be found; from whence it comes to paſs that this Vinegar is uſed in the making and perfecting of every Secret.

(a) *This is that Mercurial Vinegar mentioned Chap.* 22. *Sect.* 7. *aforegoing.*

CHAP.

CHAP. XXIV.

For the Whitening of Copper.

I. TAke of the beſt Luna as much as you pleaſe, melt it in a Crucible, and caſt upon it an equal quantity of the whiteſt Arſenick broken into little bits.

II. Caſt it into a Reed, or in the form of an Ingot, and it will be brittle as Glaſs.

III. Then beat it to Pouder, and mix it with an equal quantity of Mercury ſeven times Sublimed: Sublime again till the Mercury is fixed with the Luna in the bottom of the Veſſel.

IV. If this be not quickly done, conjoyn your Luna ſo prepared with fuſible Mercury ſo made (*a*) with Sal-Armoniack as is above ſaid, ſo will your matter be perfectly fixed.

V. This matter diſſolve in our (*b*) Virgins Milk, which ſolutions being ſeveral times repeated, it will be converted into a fuſible Salt, and a fixed Oyl.

VI. This is to be ſweetned from its Acrimony, by Diſtilled Water iterated with many Cohobations; ſo will it be a moſt perfect Oyl.

VII. One part of it put upon a thouſand parts of melted Copper, it gives it an Eternal Tincture, which will always remain, yea, in the Fire it ſelf.

(a) *According as is taught in Chap.* 4. *and Chap.* 22. (*b*) *The making of which you may ſee at large Chap.* 23. *aforegoing.*

CHAP. XXV.

A Secret from Antimony and Mercury.

I. TAke Mercury ſeven times Sublimed with Vitriol and common Salt, (the Vitriol calcined to redneſs, being changed every time, and the common Salt diminiſhed, being diſſolved, detecated, and made pure) that

that thereby, *viz.* by the Sublimation thereof, the Mercury may extract the Tincture of the Vitriol and Salt.

II. Take of this Mercury ſeven times Sublimed ℔j. Mineral Antimony, or Antimony as it comes from the Mine, as much; reduce all into a fine Pouder, and mix them together.

III. Put them into a Retort, and digeſt in warm Horſe Dung for 25 days, or a month; which done,

IV. Place the Retort in a Furnace in Aſhes, and Diſtill with a very gentle Fire for 12 Hours, then increaſe the Fire, till a Red Oyl comes; after which put out the Fire, and cool the Veſſels.

V. Take out the Oyl, and put it into a Retort cloſe ſtopped, which place in a very good heat for 8 days.

VI. After that Diſtill in Balneo Mariæ ſix times, and a ſeventh time in hot Aſhes, till it is very pure and clear, limpid, and ſhining as Gold.

VII. In this Liquor diſſolve Gold calcined with Mercury and Salt, or let it be converted into a fixed Oyl, and then conjoin it with its equal weight of Gold, boyling them together till they are fixed.

VIII. Or Diſtill the Volatile part, which cohobate ſo often upon the fixed remaining in the bottom of the Veſſel, till the whole is fixed.

IX. One part of this fixed Oyl tinges an hundred parts of Luna, and turns it into pure Gold.

X. Alſo Leaves of Silver heat red hot, and extinguiſhed in this Oyl, are tranſmuted into fine Gold.

XI. And it fixes Crude Mercury into Gold, if ſome few drops thereof be projected upon it in a hot Crucible (*a*).

XII. Its Vertues and Power are multiplied if it be often diſſolved (in the ſaid Water extracted from Antimony and Mercury ſeven times Sublimed) repeating the Diſtillations and Putrefactions.

(a) *In this caſe it will be much the better way firſt to fix the Mercury by the fumes of Lead, in ſuch ſort that it may endure melting the better, leſt it otherwiſe ſhould all fly away before the operation is performed.*

CHAP.

CHAP. XXVI.

A Tincture of Silver upon Copper.

I. TAke of Luna (Amalgamated with Mercury) ℥ij. of ☿ extracted with Calx Vive and Tartar from Mercury Sublimate, ʒiij.

II. Let the Mercury be well waſhed with Salt and Vinegar, to which add Salt often purged till it flow like Wax, which is done by many Solutions, Calcinations, and Fuſions.

III. Mix all in a Fixatorie Veſſel, which for a Month put upon warm Aſhes, till the whole is fixed.

IV. To this add Mercury Sublimate (fixed by many Sublimations with Sal Armoniack) thrice the weight, and fix again; boyl it for a Month, and it will be perfectly fixed.

V. This you muſt repeat four times, or till the Water flows like Wax without fume.

VI. Then project of this matter p. j. upon Venus p. x. and it will be tinged perfectly into Silver.

CHAP. XXVII.

A Tincture of Gold upon Luna.

I. TAke of fine Luna ʒij. of fine Sol ʒj. melt them together, and bring them into thin Leaves, which diſſolve in Aqua fortis.

II. To this Diſſolution add Mercury ſeven times Sublimed ʒiij. then Diſtill to dryneſs.

III. To this matter add fixed Mercury and fluid or fuſible, prepared with Sal Armoniack, as above ſaid; which again diſſolve, and abſtract the Aqua fortis to dryneſs, which repeat by thrice cohobating, till the matter flows like Wax without fume.

IV. Project o this p. j. upon fine Luna p. x. and it will be good Gold.

CHAP. XXVIII.

Another Tincture of Gold upon Luna.

I. TAke of fine Sol calcined with Mercury, Sulphur, and common Salt prepared and well purified; waſh the Calx in warm Water, till it is ſweet, and freed from all manner of ſaltneſs.

II. Take of this Calx ℥ij. Mercury ſeven times Sublimed, and reduced again into running Mercury ℥ij. mix them well.

III. Then put them into a Fixatory or ſtrong Matreſs well ſtopt, which place in an Athanor for a Month, that the matter may be congealed.

IV. Diſſolve again with the ſame Mercury prepared in the ſame manner as aforeſaid, by beating and mixing till the matter will flow as Wax.

V. Then diſſolve it in our Virgins Milk, or our Diſtilled Vinegar, which we have declared above, in the Three and Twentieth Chapter.

VI. The Diſſolution filter till it is clear, which is many times to be dryed, and to be diſſolved again by many Cohobations; which is ſo often to be iterated till the matter will flow as Wax, without any fume.

VII. Then edulcorate it with Spirit of May Dew, that it may loſe all its Acritude; ſo have you a true Elixir, to project upon Luna.

VIII. One part hereof put upon a thouſand parts of melted Luna, will tranſmute it into the beſt and fineſt Gold, which will be more pure, if with patience it is elaborated. It is a long Preparation.

CHAP. XXIX.

A Tincture of Sulphur and Mars for Luna.

I. TAke Scales of Iron (plenty of which you may find in a Smiths Shop) being beaten off from the red hot Iron, ℔j. yellow Sulphur as much.

II. Mix

II. Mix and burn them together, adding new Sulphur ℥j. or ij. for the ſecond or third Combuſtion.

III. Being burnt, beat it, put it into a Retort, and Diſtill by Aſhes, obſerving the degrees of Fire, ſo have you an Oyl of Sulphur in a large quantity; becauſe the Sulphur of the Iron is adjoyned to the common Sulphur, by which the humidity is augmented.

IV. The Diſtillation being done, augment the Fire, till the matter remaining in the bottom of the Retort is red hot, and well calcined to Redneſs.

V. This matter thus Calcined Red, take, and put upon it its own Water in a Glaſs Veſſel, to which add Spirit of Life (*a*) four times as much as there was of the Oyl or ſharp Water, Diſtilled from the Sulphur and Mars.

VI. Put theſe in warm Aſhes that they may boyl gently, and extract a Tincture by boyling from the Calcined matter.

VII. This Tincture decant by Inclination, and add new Spirit of Life, putting them into a gentle heat to digeſt till it is Coloured.

VIII. This Tincture decant, and conjoyn it with the former, which Work ſo often repeat, till the Spirit of Life or Mercury will be no longer tinged.

IX. Put theſe Tinctures of the Spirit of Life into a Stillatory, and with a very gentle Fire ſeparate the Spirit from the Tincture, which will remain in the bottom of the Veſſel thick like Honey.

X. To this Tincture add of Mercury, (*b*) *here is meant the Mercury of the Philoſophers*, well waſhed an equal Quantity, mix them throughly, which digeſt in a gentle heat for one day, till the Mercury is fixed into a Red Pouder.

XI. This Red Pouder diſſolve in our Virgins Milk, and Cohobate often till it is converted into a Red Oyl fixed.

XII. This Oyl conjoyn with an equal Quantity of the Oyl of Gold, and digeſt in an equal and gentle heat for a Month, and it will perfectly fix the Oyl of Mars, Sulphur and Mercury.

XIII. This being put one part upon melted Luna an hundred parts, gives a wonderful Tincture.

(*a*) *There is meant mineral Spirit of Wine; ſome think Spirit of Mercury; which is the thing: others Spirit of Quicklime, but they are deceived.*

CHAP. XXX.

A Tincture from Sulphur Vive, *and* Argent. Vive, *upon* Luna.

I. TAke of *Sulphur Vive*, or that which was never yet melted, but is as it was taken out of the Mine, (for that has the better and greater Tincture.)

II. Take of this Sulphur ℔ij. reduce it into Pouder, and put it into a ſtrong capacious Glaſs Urinal; upon which put Spirit of Wine perfectly Deflegmated, ſo much as may cover it the breadth of five or ſix Fingers.

III. Place it in warm Aſhes, that it may gently boyl, taking off the Scum which ariſes with a Spoon, and caſting it away; this boyling continue for three Days and Nights, adding new Spirit of Wine as the former waſtes.

IV. At the end of three days the Sulphur will be fuſible and incombuſtible, which dry with a continued gentle heat, till the Spirit of Wine is totally vaniſhed.

V. This fixed Sulphur mix well with its equal Quantity of Mercury (well waſhed) in a Glaſs Mortar with a Glaſs Veſſel, till they are throughly mingled.

VI. Then put it into a ſtrong Glaſs Matreſs, with Spirit of Wine covering it the breadth of four Fingers, which ſtop very cloſe, and place in warm Horſe Dung for fifteen days, and the Spirit of Wine will be defecated, the matter remaining dry.

VII. Take the Matreſs from out the Horſe Dung, and place it in warm Aſhes, ſo will the matter turn black as Pitch in a few days; and continuing this gentle heat, it will paſs through all Colours, till it comes to a perfect Redneſs, like that of a Ruby.

VIII. This matter fix in a Fixatory in an Athanor for a Month, till its Odour or Smell is moſt fragrant and ſweet, which you may perceive by the aperture of the Veſſel.

IX. If this matter be diſſolved in our (*a*) Virgins Milk, and then again in Spirit of May Dew, till it is ſweet; it will more perfectly make a Tranſmutation into Gold.

X. One

X. One part of it being put upon a thousand parts of melted *Luna*, or upon any other Metal, it transmutes them into the finest Gold.

XI. Yea, being put upon Crude Mercury (*b*) in a hot Crucible, it transmutes it into a Stone of the same Virtue and Efficacy.

XII. One part of this Mercury being put upon an hundred parts of Quicksilver, fixes it into good Gold.

(a) *The way of making it is taught in Chap* 23. *aforegoing.*
(b) *You may first fix it with the fumes of Lead.*

CHAP. XXXI.

A Preparation of Arsenick to whiten Venus.

I. TAke *Sal Niter*, *Roch Alum*, common Salt prepared, A. ℔j. mix and make an Aqua fortis according to Art.

II. The Fœces beat well, and put to them *Crystaline Arsenick* in fine Pouder ℔j. which Sublime once.

III. Beat this Sublimate small, and dissolve it in the aforesaid A. F. and clarifie the Solution.

IV. Distill this dissolved *Arsenick* by a Retort, and you will have in the bottom a dry matter, which in a moist place will resolve into Oyl.

V. To this Oyl add the Oyl of *Luna*, (the Preparation of which we have taught before) and fix them together for a Month in a warm place.

VI. Then abstract the superfluous humidity by Distillation, till there remains in the bottom of the Stillatory a truly fixed Oyl.

VII. This Oyl will penetrate Copper and tinge it white; and one part of it being put upon one hundred parts of melted Copper, will transmute it into good Silver.

CHAP.

CHAP. XXXII.

A fixed Tincture to convert Luan *into* Sol.

I. TAke of the beſt *Luna* calcined with Mercury, and Salt prepared: mix it with an equal Quantity of *Cinnabar* of *Antimony*; theſe Sublime three times.

II. In every Sublimation repeat the *Cinnabar* of *Antimony*.

III. Then diſſolve this matter in a Compound Aqua Fortis, made of Niter and Vitriol, A. ℔j. Antimony, Verdigriſe, A. ʒiij. make the Solution over warm Aſhes.

IV. Keep the Diſſolution warm for three days, at the end of which time Diſtill a Water, and reduce the Fœces into a Body, by melting or diſſolving them with Borax.

V. Thus have you a Tincture for *Luna*, which with an equal Quantity of fine *Sol*, will tranſmute it into good Gold.

CHAP. XXXIII.

Mercury Water.

I. TAke Mercury Sublimate in fine Pouder ℔j. lay it on a ſtrong ſubſtantial plate of Tin, with a hole in its middle; place it on a Glaſs Funnel in a cold place, that the Mercury may melt *per deliquium*.

II. This Liquor Diſtill in Balneo, repeat the Diſtillations, until the whole matter be turned into Water, and doth all ariſe in the Diſtillation.

III. Take all this Diſtilled Water and draw it off in Aſhes, what remains in the bottom of the Alembick let it melt again *per deliquium*, and Diſtill again in Balneo and Aſhes, as before, till no Fœces remain in the bottom of the Alembick.

IV. In

IV. In this Mercurial Water ſeven times Diſtilled in Aſhes, is Gold (Calcined with Mercury, Salt and Sulphur) to be diſſolved.

V. This Solution is to be putrefied for fifteen days in Horſe Dung, and Diſtilled with a gentle Fire in Aſhes, and Cohobated upon the Fœces, till it be converted into a true fixt Oyl, whoſe Vertue is wonderful.

VI. One Pound thereof will go upon an hundred of melted Silver, and turn it into pure Gold, tinging and tranſmuting of it throughly.

VII. If its Oyl be ſweetned with Spirit of May Dew, by often Diſſolving, Diſtilling and Cohobating, its Vertue and Efficacy ſo encreaſeth, that it cures all Diſeaſes both Humane and Metallick.

CHAP. XXXIV.

To tinge Luna *into* Sol.

I. TAke of the beſt *Sol* calcined, *Crocus Martis*, calcined Braſs, of each alike; add thereto *Sal Armoniack*, rectified upon *Crocus Martis*, by Solution of the *Sal Armoniack* in ſharp Spirit of Vinegar; for the *Crocus* being ſo diſſolved, tingeth the *Sal Armoniack* with its Colour.

II. By Diſtillation or Exſiccation and Sublimation, let this Tincture be joyned to the Sal Armoniack.

III. Diſſolve of this Sal Armoniack 4 Ounces, in our Vinegar; our Virgins Milk (*a*) and put into this Solution the Pouder of the Crocus, of Gold, and of Calcined Braſs, in which perfectly diſſolve them all.

IV. Filter and purify the Solution, and let it putrefy for a Month in Horſe Dung, then Diſtill by a Retort in a gentle Fire, or Aſh or Sand heat.

V. Cohobate the matter on the Fœces, till it be converted into a fuſible Salt, which ſweeten with Spirit of May Dew, and then it will tinge very well; one part will go upon ten parts of melted Silver, and tranſmute it into good Gold.

(*a*) *See Chap.* 23. *aforegoing.*

CHAP.

CHAP. XXXV.

To make Crocus Martis *more noble, for perfecting the former Secret.*

I. TAke as many Filings of Steel as you pleaſe, waſh them Ten or Twenty times in Water, in which Salt is diſſolved, till the Filings are very clear and pure, then dry them.

II. Put them into a Glaſs Matreſs, and Affuſe thereon ſtrong Spirit of Vinegar, to which add a good Quantity of diſſolved Sal Armoniack.

III. Place the Glaſs Matreſs in the Sun for 8 days, turning it every day, and ſhaking it; then decant the Vinegar, and put on freſh Spirit, with new Sal Armoniack.

IV. Shake well the Matreſs or Veſſel, and put it into the Sun again, until the Vinegar is tinged, which decant alſo, and add it to the former.

V. This Work you muſt repeat, till the Filings are diſſolved in the Spirit of Vinegar and impregnated with the Sal Armoniack.

VI. Diſtill theſe Tinctures with a gentle heat, ſo will the Spirit come off, and leave the Crocus at bottom, moſt admirable in augmenting the Tincture in the former Chapter.

VII. This Crocus may be reduced into a true Red Oyl of Mars; and if it be often diſſolved in Spirit of Vinegar, and then diſſolved in Spirit of May Dew, it will be turned into a moſt Red Oyl.

VIII. This Oyl if it be joyned with the Oyl of Gold, and fixed, it will be a moſt perfect Work, of which one part will go upon an hundred parts of melted Silver.

IX. Mercury ſeven times Sublimed will be tinged by it, and converted into a moſt Red Oyl, nearly equal in Vertue and Power, to the former Oyl of Gold.

CHAP.

CHAP. XXXVI.

To turn Water into good Wine.

I. TAke of the beſt Wine ſix Quarts, or what Quantity you pleaſe; Diſtill it in a Glaſs Alembick, large and high, with a gentle Fire: Or ſubſtitute good Spirit of Wine (ſeven times at leaſt rectified) in its place, that it may be perfectly Dephlegmated.

II. The Spirit thus rectified keep well ſtopt in a Glaſs, then proſecute your Diſtillation, and the Flegm will come over, which rectify ſeven times, till it be very pure and clear, and free from all manner of Fœces in the Diſtillation.

III. The Flegm thus prepared, keep in a Glaſs by it ſelf; increaſe the Fire in the ſame Diſtillation, and you will have a Red and Fœtid Oyl: This you muſt ſo often rectify till it be white and clear, and has loſt its *Empyreuma*, which keep in a Phial well ſtopt.

IV. Calcine the remaining Fœces in a Crucible, with a ſtrong open Fire, till they are white; to which Calcined Fœces put the rectified Flegm, in a new Glaſs Alembick, with a blind head: Let it Boyl for an hour, then filter and purify it.

V. This purified Liquor Diſtill in an Alembick, and the Fœces remaining Calcine again, as before, and diſſolve it in the Flegm: Thus do 7 or 10 times, Calcining, Diſſolving and Filtering, till you have a pure white Salt, freed from all Fœces and Impurity.

VI. To this pure Salt add its own rectified Spirit, reſerved after the ſeventh Rectification, and in it diſſolve the Salt in a warm Sand heat; filter and purify the Solution, and if there remains any thing undiſſolved, Calcine it again.

VII. Being Calcined, diſſolve it in the rectified Flegm, then Coagulate, and diſſolve it in the rectified Spirit; which Solution Diſtill and Cohobate ſo long upon the remaining Salt, till it be turned into an Oyl, which purify, and make Volatile, by joyning it with its own Spirit.

VIII. This

VIII. This by continual Digeſtion fix, being fixed, add to it the former rectified Oyl, and fix both together, then Volatilize and fix it again.

IX. Thus are all the Elements of the Wine joyned in this fixed Mixture; and it will turn Water into good and pure Wine: One Pint will turn 300 Pints of Water into Wine, which is wonderful to ſee.

CHAP. XXXVII.

To turn the fuſible Oyl of the Golden Marchaſite into Gold

I. TAke of the beſt Marchaſite of Gold ℔ij. reduce it into very fine impalpable Pouder, which diſſolve in *Aqua Regis*, upon warm Aſhes.

II. Decant off the clear part of the Solution from the turbid Fœces, Diſtill the Solution clear, dry the Fœces, and Cohobate the Diſtilled Water upon the Fœces; always purifying the Solution, and decanting it clear off from the troubled Fœces.

III. At length dry the Marchaſite, and add to it of good Gold (calcined with Mercury, Salt and Sulphur) one Ounce, and of the Sal Armoniack rubified (with the Crocus Martis, as above) 2 Drachms; of Mercury 7 times Sublimed 3 Drachms.

IV. Mix and incorporate all together in a Marble Mortar, with a Glaſs Peſtell, and put all into a Retort, and Diſtill with a gentle Aſh heat, till all the humidity is vaniſhed.

V. Then increaſe the Fire, that the Volatile parts may Sublime into the neck of the Retort; after which break the Retort, and joyn the matter beaten into Pouder in the bottom with what Sublimed into the neck.

VI. Mix them very well together, and Sublime them again; repeat this Work ſeven times, the matter will be (as fuſible as Wax) in the bottom of the Retort.

VII. Joyn this fuſible matter with the fixt Oyl of the Alcaly, or fixt Salt; Digeſt them for a Month in an Athanor in a ſtrong Glaſs; and if need require, Digeſt it

longer,

longer, until it be congealed into a fusible, yet fixt matter.

VIII. You may project with this, by putting one Ounce thereof upon an hundred Ounces of Mercury, made hot in a Crucible.

CHAP. XXXVIII.

To make the Oyl of an Alcali to prepare the former Secret.

I. TAke Sal Alcali 10 Pounds, beat it in a Marble Mortar, and incorporate it with Distilled Vinegar, of which make round Balls, and dry them in the Sun.

II. Put these Balls into a Reverberatory, and calcine them for 24 hours, then dissolve them in a sufficient quantity of Distilled Vinegar; filter the Solution, and Distill to dryness.

III. Then dissolve it again in fresh Distilled Vinegar, the matter is turned into a fixt Oyl and Salt, fusible as Wax.

CHAP. XXXIX.

To tinge Luna *into* Sol.

I. TAke of the best Antimony well Poudred one Pound, crude Tartar and Salt, of each as much; Pouder them all, and being well mixed, calcine them in a strong Crucible, with a violent Fire.

II. Encrease the Fire till the matter is melted, and let it remain melted for four hours, that the Regulus may fall to the bottom of the Crucible.

III. When the matter is cold, separate it from the Regulus, which keep; the rest of the matter dissolve in fair Water,

Water, by Boyling it; then filter and purify it as much as you can.

IV. This matter thus filtered and purified, mix with the Spirit of Vinegar, ſo will the Golden Sulphur of the Antimony precipitate.

V. This ſeparate by Filtration, ſo will the Golden Sulphur remain in the filtering Paper, which dry by a gentle Fire.

VI. The dryed Sulphur diſſolve in our Virgins Milk, and Digeſt it till it be tinged.

VII. Then Diſtill the Solution, and the acid part of the Diſtillation Cohobate upon the Fœces, that they may be diſſolved again and purified.

VIII. Repeat this Work ſo often, until it be turned into a red fixt Oyl, which is to be joyned with the Oyl of Gold, and Digeſted until it is fixed into a fuſible and tinging Salt.

IX. One Ounce of this Salt will tranſmute an hundred Ounces of melted Luna into good Sol.

CHAP. XL.

To make the Mercury *of* Antimony.

I. TAke of the Regulus mentioned in the former Chapter 4 Ounces, of Sal Armoniack, well depurated by Solution and dryed, 8 Ounces.

II. Pouder and mix them all together, and Sublime them in a ſtrong Glaſs.

III. Repeat the Sublimation 5 or 6 times, till the Regulus does riſe with the Sal Armoniack.

IV. Then diſſolve all in common fair Water, warmed, and impregnated with the Salt of Tartar; ſo in the bottom of the Veſſel you will find the Regulus turned into a running Mercury, after Menſtrual Digeſtion. See Chap. 21 aforegoing.

CHAP.

CHAP. XLI.

To extract Mercury *from Metals reduced into a Calx.*

I. Diſſolve in common Aqua fortis, Salt calcined by degrees, until the Aqua fortis will diſſolve no more.

II. Into this Water put Regulus of Antimony, if you deſire its Mercury, or the Calx of Lead, Tin, Iron, Copper, Silver or Gold, if you deſire their running Mercury.

III. Stop the Glaſs well wherein the Solution of the metallick Calx is made; digeſt it for a month in Horſe-dung, and then diſtil off the Aqua fortis, and dry the matter.

IV. Repeat this Work again, digeſt, diſtil and dry, and add to it its own weight of Sal Armoniack, and as much of Tartar, upon a good quantity of Aqua ardens, or Spirit of Wine.

V. Digeſt this Mixture for 15 days, then cauſe it to boil; and you will find running Mercury in the bottom.

CHAP. XLII.

To Tranſmute Antimony *into* Sol.

I. Take Mercury of the Regulus of Antimony ℥ij. of the beſt Gold filed or made into thin leaves ℥j. make an Amalgama thereof.

II. Then with common Mercury and pure fine Silver, make another Amalgama, beat and mix both the Amalgama's in a Glaſs Mortar, with a Glaſs Peſtel.

III. Being well mix'd, put them into a long Bolt Head well ſtopt, and in a gentle heat digeſt the matter, until it wax black.

IV. Then encreaſe the Fire, and digeſt until it grows

white; digeſt ſtill, and encreaſe your Fire, till the Matter wax red as Cinnaber.

V. To this add new Mercury drawn from the Regulus of Antimony or Silver, mix them well together, and digeſt them again, till the matter waxes white, and red as before.

VI. This do three times, and you will have a true Elixir for Sol; one ounce whereof will go upon a thouſand ounces of melted Luna.

VII. And if this matter be diſſolved in the mercurial Water we have taught to prepare in the XXXIII. Chapter aforegoing, it will be an unparalell'd Secret; and being ſweetned with Spirit of May-dew: it cures all Diſeaſes, both Humane and Metallick.

CHAP. XLIII.

To make Mercury *of Silver, and with it a great Elixir.*

I. TAke of the beſt Silver ℥ij. diſſolve it in Aqua fortis and digeſt it for a month, then diſtil and cohobate three or four times.

II. At length draw off the Aqua fortis to a fourth part, and place the reſt in a cold moiſt place to cryſtallize.

III. To theſe Cryſtals well dry'd, add of good Oil of Tartar made of the beſt and whiteſt Salt of Tartar ℥j. of diſſolved Sal Armoniack ℥ij. digeſt them in Horſe dung for a month, or in Balneo, in a Glaſs Matraſs very well ſtopt.

IV. Then add to it ſublim'd Sal Armoniack, and Salt of Tartar, of each equal in weight.

V. Digeſt it with Spirit of Wine for 15 days, and then let it boil, and in the bottom you will find a running Mercury, which dry, and waſh with Salt and Vinegar, and again dry it.

VI. This Mercury amalgamate with Gold and Silver, and digeſt the Amalgama, that it may be turned into a red Pouder.

VII. The

VII. Then nouriſh it with the like Mercury, digeſt it that it may be fix'd, and again diſſolve it: this do ſeven times, and fix it, till it be converted into a red Pouder.

VIII. One ounce of this Pouder will make a Projection upon an hundred ounces of melted Luna, and turn it into good Sol.

IX. And if this Pouder be diſſolv'd in the Water of Mercury, and digeſted into a fix'd Oil; one ounce will project upon a thouſand ounces of melted Luna: it will alſo project upon all other Metals, but chiefly upon Tin, and Lead.

CHAP. XLIV.

To fix and tinge Venus *into good* Luna.

I. TAke of Mercury ſeven times ſublim'd ℥vj. Sal Armoniack as much; Calx of Luna calcin'd with Mercury ℥ij. mix all together and ſublime them.

II. What Sublimes, add to the Fæces, beat them together, and again ſublime in a new Glaſs: which Work repeat till nothing ſublime, but all remains at the bottom of the Glaſs.

III. Then pouder it, and in a moiſt place, let it run *per deliquium*; which Liquor filter, purify and congeal upon warm Aſhes.

IV. Diſſolve it again with the Water which aſcends, filter and congeal upon Aſhes; which Work repeat ſeven times, and it will be a Medicine; of which one ounce will change fifty ounces of Mercury into Luna; and tinge an hundred ounces of Venus into good Luna.

CHAP. XLV.

To fix Luna, *and tinge it into good* Sol.

I. TAke Mercury ſeven times ſublim'd ℥iij. Gold calcin'd (with Mercury, Salt and Sulphur) ℥j. Oil of Crocus Martis often diſſolv'd, waſh'd and purify'd ℥iij. rubify'd Sal Armoniack ℥iv.

II. Mix them together, and ſublime them with a ſtrong Fire in a Glaſs Matraſs in Aſhes: what Sublimes, put again to the Fæces which remain in the bottom, and repeat this ſo often till it will ſublime no more.

III. Then what is in the bottom beat and pouder very ſmall: this Pouder put into a Glaſs with holes in it, over a Glaſs Funnel, and in a moiſt place, let it melt *per deliquium* to Water.

IV. This Water, filter, purify and diſtil it: what remains in the bottom, diſſolve again in the Water that diſtill'd over; and repeat this till the matter remains in the bottom, in a moiſt, red and fuſible Salt.

V. One ounce of this caſt upon an hundred ounces of Mercury, warm'd in a Crucible, will tranſmute it into good Sol: and projected upon an hundred ounces of fine Luna, makes it all Gold of proof.

CHAP. XLVI.

To fix Mercury *into fine* Luna.

I. TAke of calcin'd Tin ℥iv. diſſolve it in a ſufficient quantity of the Virgins Milk, (in Chap. XXIII. aforegoing.)

II. Digeſt the Solution for eight days in warm Aſhes, that the Calx may be diſſolv'd.

III. Diſſolve the Calx of Silver (*a*) in the ſame Virgins Milk, and digeſt it alſo for eight days; at length join both theſe Solutions together, and diſtil them in Aſhes.

IV. T

IV. To the matter remaining in the bottom add ℥iv. of the Oyl of *Sal Alcali* (*b*) and diſtil it, and dry it.

V. Then join both the diſtillations together, *viz.* what is diſtilled from the Virgins Milk, and what came from the Oil of *Sal Alkali* or fixt Salt.

VI. In this mixture diſſolve the remaining matter in the bottom of the Glaſs, filter and purify it, and again diſtil.

VII. Repeat this Solution, filtration, and diſtillation, till the matter is turned into a fixt Oil, or fuſible Salt.

VIII. One ounce hereof will project upon an hundred ounces of crude Mercury made hot in a Crucible, and tranſmute it into fine Luna.

(a) i. e. Silver Leaves, but truly Calx of Silver. (*b*) *See Chapter* 38. *afore-going: Salt of Tartar is alſo a* Sal Alcali *of the higheſt order, and poſſibly the real thing which is intended.*

CHAP. XLVII.

To fix Mercury *into fine* Sol.

I. TAke of the beſt Minium ℥vj. diſſolve it in a good quantity of our Virgins Milk; and digeſt it for 8 days.

II. Add to it of the Crocus Martis or of its Oil ℥iv. mix all together and putrify it for eight days in Horſe-dung or in a Balneo Mariæ.

III. Then diſtil to a dryneſs, and diſſolve it again with its own Water; filter and purify it: repeating this work, till the Matter is converted into a red and fuſible Salt.

IV. Add to this Salt of the Oil of Sol ℥ij. mix and digeſt till they are fixt: then in their own Water diſſolve the matter again: repeat this ſo often, till all be turned into a true and red fixt Oil.

V. One ounce of this will fix and tinge a thouſand ounces of Mercury, being made hot in a Crucible: it will alſo tinge Luna into fine Sol.

CHAP. XLVIII.

To fix Mercury *into fine* Sol.

I. TAke Crocus Martis ℥iv. of the beſt red Lead as much: diſſolve all in a ſufficient quantity of our Virgins Milk.

II. Digeſt the Solution in a Balneo, *i. e.* a bath for fifteen days; filter and purify it, then diſtil it to dryneſs in a Retort in Aſhes: cohobate upon the fæces, diſſolve, filter and purify again, and diſtil in a Retort to dryneſs; and do this till the matter diſſolve without any fæces.

III. Then diſſolve and diſtil, till the matter be turned into a fuſible Salt: to this Salt add Gold (calcined with Mercury, Salt and Sulphur) well waſhed, ℥ij. Oil of Sal Alcali or fixt Salt ℥iij. mix and digeſt for 15. days.

IV. Then draw off the ſuperfluous moiſture, and cohobate by diſſolving, filtering and diſtilling, ſo long, till your Salt is moſt pure, red, and fuſible.

V. One ounce of this Salt will project upon, fix, and tranſmute a thouſand ounces of Mercury into fine Sol.

CHAP. XLIX.

To fix Mercury *into fine* Luna.

I. TAke of the beſt white Lead and of the Calx of Silver (calcin'd with Mercury) of each ℥ij. diſſolve them in our Virgins Milk.

II. Filter the Solution, and digeſt it in Balneo for 15. days; then add to the fæces new Virgins Milk that all may be diſſolved; for the Calx of the Silver is hard to diſſolve, and will remain undiſſolved, if you be not careful.

III. You ſhall know when the Luna is diſſolved; for then the fæces in the bottom of the Veſſel will ſeem ſpongy or light.

IV. After all is diſſolved and made pure, diſtil to dryneſs: then diſſolve and purify the Solution again, till

till all the matter be turned into a fuſible fixt Salt; which will be done in 12. or 15. Solutions.

V. One ounce of this fuſible Salt may be projected upon a hundred ounces of Mercury heat in a Crucible, and it will tranſmute it into good Luna.

CHAP. L.

To fix Mercury *into true* Sol.

TAke the red mineral ſtone *(a)* heat it hot, and quench it in ſtrong Vinegar *(b)*, do ſo ſeven times.

II. Then beat and pouder it very ſmall, and diſſolve it in common *Aqua fortis (c)*, putrify the Solution 15 days in Horſe-dung, or *Balneo Mariæ*.

III. Filter the clear part of the Solution from the fæces, then diſtill it, and cohobate upon what remains in the Veſſel ten times.

IV. Then diſſolve in our Vinegar or Virgins Milk, filter and purify the Solution as before, and diſtil it.

V. Then diſſolve it in Oil or Water of Mercury *(d)*: let it be diſſolved, dryed *(e)* and diſtilled, until it be turned into a fixt Oil, or fuſible Salt.

VI. To this Salt add Oil of Sol as much, then fix it, which is done by a ſhort digeſtion becauſe the ſaid Solar Oil is fixed *(f)* of it ſelf; therefore the fixation is done in a very little time after they are mixed together.

VII. This red Tincture is multiplyed, and its Virtue and Pouer increaſed and ℥j. of this Tincture will project upon a thouſand ounces of Mercury, and fix it into pure Sol.

(a) *That is Cinnabar native or artificial, but rather native.* (b) *Here you are to underſtand Spirit of Vinegar, freed from all its flegm.* (c) *Underſtand the ſtrongeſt* Aqua fortis *of the commond kind, viz. that which is double.* (d) *See the preparation thereof in Chap. 33. aforegoing.* (e) *By drying here is meant coagulating.* (f) *Not that it is abſolutely fixed in it ſelf, for indeed it is moſt Volatile, but it is ſo called becauſe it is of a fixing property, and fixes other things.*

CHAP. LI.

To make the Oils of Gold and Silver.

I. TAke of the Gold, (calcin'd with Salt, Sulphur, and Mercury, and then waſhed) ℥ij. diſſolve it in a ſufficient quantity of *Aqua regia.*

II. Digeſt it in *Balneo* or Horſe-dung for 15. days, and diſſolve the Solution to the conſumption of a third part, the reſt take from the fire, and expoſe it to the cold Air, that the Gold may congeal *(a)* into yellow Stones or Cryſtals.

III. Put theſe Stones upon a Glaſs, and let it run to Water *(b)*, the reſt of the Solution again diſtil to the third part, then expoſe it to the Air to Cryſtalize, as before, and run *per deliquium*, and diſtil as before.

IV. Repeat this work ſo often, until the Cryſtals or little yellow Stones are turned into a fixed Oil.

V. But by cohobating upon it *Aqua fortis*, it will be ſooner turned into a fuſible Salt, *(c)*. And after this manner is the fixed Oil of Luna prepared.

VI. Theſe Oils are very neceſſary for the perfecting of ſeverals Operations, and are the principal things of note in Chymiſtry; for we need no other ſecret, but theſe Oils of Gold and Silver.

VII. And although there are many other things which can do it, yet theſe very Oils augment and multiply, and are of that Virtue, that they are true ferments.

VIII. They turn all other fixed Oils drawn from Minerals or Metals into their own ſubſtances; and ſo by the Oils of Sol and Luna, the fixed Oils of imperfect Metals are multiplied.

(a) *That is, ſhoot into Golden Cryſtals.* (b) *viz. to diſſolve into a liquor* per deliquium. (c) *This is according to the mind of* Paracelſus, *who thinks that by continual affuſion of more of the diſſolvent you will at length divide the matter into ſo ſmall and ſubtil particles that it will become Oil.* See my Doron Medicum, lib. 2. cap. 1. Sect. 16. §. 1. and 5.

CHAP.

CHAP. LII.

To fix Luna *into* Sol.

I. TAke of dryed Roman Vitriol ℥xij. Antimony, and Sulphur, of each ℥iv. Verdigriſe, Sublimate, of each ℥ij. Sal Nitre ℥vij. make of theſe a Water according to Art.

II. Take ℔j. of this Water, and add to it ℥vij. of Cryſtals of Arſenick, in a large Glaſs Matraſs with a long neck, which circulate till all be fixed.

III. Then dry it, and pouder it: Take of this pouder ℔j. and caſt it upon ℔vj. of melted Silver; and it will make it ſomewhat brittle.

IV. Toaſt this Metal upon a Cupel, till it be ſweet, and then diſſolve in *Aqua Regia*; what will not diſſolve, melt with Borax in a Crucible, and you will find half the Luna turned into Sol.

CHAP. LIII.

To extract Mercury *from* Sol.

I. TAke what quantity you pleaſe of Sol, calcined with Salt, Sulphur, and Mercury, and ſeven times repeated, by abſtracting the Mercury in a Retort, and adding freſh Mercury to the matter remaining in the bottom of the Glaſs, till the Sol is reduced to a very fine Pouder.

II. Take of this prepared Gold ℥ij. of the beſt white Salt of Tartar (from which the beſt rectified Spirit of Wine has been diſtilled) ℥iv. common Salt decrepitated, diſſolved, and congealed again ℥ij. Sal-Armoniack purely ſublimed ℥j. the beſt rectified Spirit of Wine ℥vi. mix them all together.

III. Put all into a Glaſs Veſſel, ſtopt well, and putrify it in Horſe-dung, or Balneo, for a month.

IV. Then diſtil off the Spirit of Wine, and if any Quick-

Quick-ſilver remain at bottom, diſſolve it in *Aqua fortis*, and cohobate it three or four times.

V. At laſt put to it the beſt rectified Spirit of Wine, and make it to boyl, ſo ſhall you find the Mercury alone in the bottom of the Veſſel, which purify very well, and keep it for perfecting of the following Arcanum.

CHAP. LIV.

To fix this Mercury into moſt fine Sol.

I. TAke of the forementioned Mercury (of Sol) ℥j. of common Mercury drawn from Cinnabar, with Lime and Salt of Tartar, ℥xx. mix all together, and put to it of the beſt Oil *j.* drachm: which mix well together in a ſtrong Glaſs.

II. Digeſt them for a month in Aſhes, till the matter is turned into a fixed red Pouder.

III. Diſſolve this Pouder in our Virgins Milk (a), the preparation of which we have formerly taught, filter and purify the Solution.

IV. Digeſt this in Horſe-dung for a month: then draw off the Virgins Milk, and keep or reſerve it for other ſecrets.

V. The remaining matter diſſolve again in Spirit of May-dew, filter, and purify the Solution, and abſtract it again by a gentle or ſlow diſtillation.

VI. This work repeat ſo often, till you have a Salt fuſible as Wax or Butter: of which ℥j. will tranſmute a thouſand ounces of common Mercury (well waſhed or cleanſed) into pure Sol.

(a) *See Chapter* 23. *aforegoing.*

CHAP

CHAP. LV.

To fix the Mercury *of* Luna *into* Luna.

I. TAke of Mercury drawn from Luna ℥ij. common Mercury, drawn from common ſublimate ℥ij. and an half or ℥xx. Oil of Luna ℥ij. Oil of Tin ℥iij. mix all together.

II. Put them into a ſtrong Glaſs Matraſs, and boyl in an Aſh heat, till the matter is fixed into a Pouder or white Salt.

III. This Powder or Salt diſſolve in our Virgins Milk; filter and purify the Solution: then diſtil off the Milk, and cohobate it ſeveral times, till all the matter be converted into a Salt, fuſible as Wax.

IV. Diſſolve this fuſible Salt in Spirit of *May*-Dew, and dulcifie it by cohobation: ſo long do this, till the Salt be turned into a true and white fixed Oil.

V. One part of this Oil, will tranſmute a thouſand parts of common Mercury into pure and fine Luna, and for ever fix it.

CHAP. LVI.

To cement Luna *into true* Sol.

I. TAke of burnt Braſs ℥j. Roman Vitriol made red, and of the beſt Crocus Martis, of each ℥ij. Lapis Tutia, Sal-Armoniack, of each ℥j. make them into a moſt ſubtil pouder, and mix them together.

II. Take then of the fineſt Sol, and of the fineſt Luna, of each equal parts thereof, which cement with the former Pouder in a Crucible.

III. Lay them in the Crucible, *ſtratum ſuper ſtratum* with the Pouder, which cover and well lute it, and cement for twenty four hours.

IV. Then waſh the Plates, and melt them again, and make Plates, and cement as before with the ſame Pouder:

der: this do ſeven times, and all the Luna will be turned into the moſt pure Sol.

CHAP. LVII.

To make Aurum Potabile, *to prolong life.*

I. TAke of the moſt pure and fine Sol, what you pleaſe, diſſolve it in *Aqua regia* in which prepared common Salt is diſſolved, and putrify the Solution in Horſe-dung for a month.

II. Then add thereto half a pound of rectified Spirit of Wine, digeſt in Balneo for fifteen days, and abſtract the Spirit of Wine.

III. The Sol again diſſolve, and cohobate ſeven times upon the matter remaining in the bottom.

IV. Now here is to be noted in this Solution, that the *Aqua fortis (a)* which is firſt put on the Gold to diſſolve it, is to be ſeven times rectified in new Retorts, that it may be freed from the Salt.

V. The Sol being thus diſſolved is then to be put into Spirit of *May*-Dew, and ſo diſſolved: abſtract the Spirit, and diſſolve again, and abſtract to dryneſs.

VI. This dry matter expoſe to a cold and moiſt Air for a night, that it may be diſſolved, and the acrimony of the *Aqua fortis (b)* be fully taken away.

VII. Diſſolve again *de novo* with new rectified Spirit of Wine, and dry it by diſtillation; which work ſeven times repeat, till all the Sol is turned into a ſweet Oil.

VIII. This is *Aurum Potabile*, which will cure all Diſeaſes and Infirmities, and prolong life to extream old Age. Doſe one grain or drop in a ſpoonful of good Spirit of Wine *(c)*.

(a. b.) In both theſe places you are to underſtand Aqua Regia; *(c) not rectified, for then it will be too ſtrong to be taken: inſtead thereof you may uſe pure Canary, or which is better, choice* Cinnamon Water.

CHAP.

CHAP. LVIII.

To make Argentum Potabile, *to Cure all Diſeaſes of the Brain.*

I. TAke of fine Silver what quantity you pleaſe, diſſolve it in a ſufficient quantity of common (*a*) Aqua fortis.

II. Putrify the Solution in Horſe-dung for a month, or in *Balneo Mariæ*; then diſtil the matter to dryneſs, and cohobate upon the Fæces ſeven times.

III. Diſſolve the matter again into our Virgins Milk; purify the Solution by Filtration, and putrify again in Horſe-dung for fifteen days.

IV. Abſtract then the *Lac Virgineum*, and cohobate upon that which remains in the bottom.

V. Then diſſolve with a ſufficient quantity of the beſt Spirit of Wine; putrify the Solution in warm Horſe-dung or *Balneo Mariæ* for eight days; abſtract the Spirit and cohobate ſeven times; and if the Solution be not clear, filter it.

VI. This done, abſtract the Spirit of Wine, and diſſolve in Spirit of *May*-dew; filter the Solution, and abſtract ſo many times, till the matter is converted into a fuſible Salt, and ſweet.

VII. And to make it ſweeter, you may diſſolve it in new freſh rectified Spirit three or four times, ſo will you have a pure ſweet Oil of Luna or *Argentum Potabile*, for the Cure of all Diſeaſes which affect the Brain.

VIII. It is very certain, that if all the Oils of Sol and Luna (before prepar'd) were often diſſolv'd in the beſt rectified Spirit of Wine, and dulcified with Spirit of *May*-dew, and ſo freed from the Spirit of the Aqua fortis, they might with more ſafety and pleaſantneſs be taken into the Body, for the curing of Diſeaſes.

IX. Neither is their Virtue and Property of tranſmuting Metals into Sol and Luna thereby weakned, but rather fortified and extended.

X. But ſee that you operate warily and skilfully, for there is what can be deſired in Chymical Preparations, if you can but obtain theſe metallick Oils, for the curing

ing of Diſeaſes in Men and Metals, as Experience can teſtify.

XI. Yea, the Bodies of Vegetables may be cured by theſe Oils, perfectly dulcified; for all Bodies, Animal, Vegetable and Mineral have one and the ſame Fountain of Life.

XII. And out of the ſame Fountain, may be preſerved, and brought to the utmoſt Perfection that can be, which few underſtand or believe.

(a) *Without doubt you ought to take the beſt Aqua fortis, elſe you may chance to loſe your Labour.*

CHAP. LIX.

To tranſmute Luna *into* Sol.

I. TAke ℔j. of the beſt Aqua fortis, diſtil it from the Sal Armoniack, and common Salt prepared, of each ℥iij. which repeat ſeven times.

II. Diſſolve in this Royal Water of the moſt fine Gold ℥ij. and of Mercury amalgamated with ſuch Gold ℥iv.

III. Digeſt or boil them in a ſtrong Glaſs Matraſs in warm Aſhes for a month, till the whole matter is converted into a red Pouder.

IV. This Pouder diſſolve in the aforeſaid Water, and digeſt it in a warm *Balneo Mariæ* for a month.

V. Then diſtil to dryneſs; cohobate ſeven times, by putting what is diſtill'd upon that which remains dry at bottom.

VI. Add to the diſtill'd Water Spirit of *May*-dew, in which diſſolve the matter, purify and filter the Solution; this repeat many times, till the matter is converted into a fuſible Salt.

VII. This Salt dulcify with the Spirit of *May*-dew, repeating it with freſh Spirit of *May*-dew, until the Salt be ſweet, and retains no Acrimony.

VIII. One part of this will project upon a thouſand parts of melted Silver: and if you continue diſſolving it in Spirit of *May*-dew, its Virtue will be thereby more and more augmented.

CHAP.

CHAP. LX.

To transmute Venus *into* Luna.

I. TAke Mercury drawn from Sublimate with Lime and Tartar ʒviij. of the beſt Leaf-ſilver ʒiij. mix and make an Amalgama.

II. Digeſt this Amalgama in a Matraſs well cloſed in warm Aſhes for a month, till it is converted into a Pouder, or grows into a Tree.

III. Let this Mercurial and Lunar Tree be diſſolv'd in common Aqua fortis made of Vitriol, Salt petre, and Alum.

IV. Digeſt this Solution in Balneo for a month, then abſtract and diſtil to dryneſs; and cohobate ſeven times with the diſtill'd Water.

V. Then digeſt the matter with the moſt ſtrong Spirit of Vinegar, filtering and purifying the Solution; which putrify in warm Horſe-dung for fifteen days.

VI. Then abſtract by Diſtillation, and diſſolve what remains at the bottom with Spirit of *May*-dew, ſeven times rectified.

VII. This Work ſo often repeat, till the matter is converted into a Salt fuſible and fix'd.

VIII. Project one part of this Salt upon a thouſand parts of Venus, and it will all be converted into moſt pure Luna.

IX. Let this Luna, made fuſible, be oftentimes diſſolv'd in a cold and moiſt Air, and then congeal'd, that its Virtue thereby may be multiply'd; ſo thereby you may prepare a Silver Mine for the Tranſmutation of Venus.

X. From this Mine you may take every month or every week, half its weight, to project on Copper.

XI. But let there be added to the remaining matter Mercury ſublim'd or crude; and ſo the Silver Mine or Matter will never decay, as will be manifeſt by the following Arcanum. The ſame may be done with Sol.

CHAP. LXI.

A perpetual Silver Mine, that will never decay.

I. TAke of the Silver and Mercury in the former Chapter ℔j. to which add of the Mercury drawn from Cinnabar, with Lime and Salt of Tartar by Diſtillation half a pound.

II. Mix and beat all together in a Glaſs Mortar with a Glaſs Peſtel; then put it into a Matraſs with a long neck, which cloſe well, and digeſt it in warm Aſhes for a month; in which time it will be all fix'd and converted into one Subſtance with the former.

III. Then take half a pound thereof, and caſt it upon an hundred pounds of purify'd Copper melted, and it will all be pure Luna.

IV. Now, that this Mine may not decay, put half a pound of prepar'd Mercury, or common Mercury, well waſh'd to the aforeſaid Mine in a Glaſs Matraſs; and boil or digeſt it for a month (cloſe ſtopt) in warm Aſhes; ſo will the whole Medicine be of equal Virtue with the firſt.

V. And by this manner of feeding it with Mercury, your Mine will laſt for ever; ſo that every month you may take out half a pound, for the Tranſmutation of Venus into good Luna.

VI. In the ſame manner may you likewiſe proceed with Sol, as ſhall be declared in the following Arcanum.

CHAP. LXII.

A perpetual Golden Mine, to tranſmute Luna *into* Sol.

I. TAke of the Sol, prepared by ſome of the former Secrets, or at leaſt, Sol that is by Art coverted into a fix'd Oil or Salt which is fuſible: take of this fuſible Salt

Salt of Gold ℔j. of Mercury drawn from Cinnabar, as is before taught, half a pound.

II. Mix and beat all together in a Glaſs Mortar, with a Glaſs Peſtil; and put it into a ſtrong Glaſs Matraſs, with a long neck, which ſtop or cloſe well.

III. Put this Matraſs to digeſt in warm Aſhes for a month, and in that time all the Mercury will be converted into a Medicine, of equal Virtue with the former.

IV. Take of this Medicine one part, and caſt it upon a thouſand parts of melted Luna, and it will all be turned into good Sol.

V. To the remaining matter add half a pound of Mercury prepared, *(ut ſupra)* and digeſt it for a month; ſo will you find, that your Golden Mine will be inexhauſtible. Thus by the pure Oils of Sol and Luna are made the Golden and Silver Mines.

CHAP. LXIII.

A tinging Water to tinge Luna.

I. TAke of burnt Braſs (prepared and diſſolved in common (*a*) Aqua fortis, and deſiccated by Abſtraction of the Aqua fortis) half a pound; of the Tincture of Mars, or of *Crocus Martis*, diſſolved into Oil, half a pound; Roman Vitriol calcined only to whiteneſs ℔j. crude Antimony, Sulphur and Mercury ſublimate, of each ℥iij. Verdigriſe, Lapis Tutia, of each ℥ij. pouder them all and mix them.

II. Put them all into a Glaſs Retort well luted, and from hence draw an Aqua fortis, and therewith oftentimes imbibe this matter.

III. Then calcine it in a Crucible with common Salt and common Mercury; or elſe diſſolve your Luna in a Glaſs Alembick, and abſtract the Aqua fortis by Diſtillation; what remains in the bottom will be tinged Luna.

IV. This tinged Luna may with Borax be reduced into a body, throughly tinged with the higheſt Golden colour.

V. The Fœces of this Aqua fortis are very profitable to cement Luna with equal parts of Sol, to tinge it into a Golden colour; they being mixt in equal quantities, made into Plates, and cemented with the ſaid Pouder for twenty four hours in a well luted Crucible according to Art.

(a) *That is made by the common Recipe, but you ought to take the beſt of that kind*, viz. *Double Aqua fortis.*

CHAP. LXIV.

To multiply Luna.

I. TAke of the beſt Mercury, well waſh'd, ℥ij. kill it with common Salt and Man's Spittle, by ſtrongly grinding of it in a Glaſs Mortar with a Glaſs Peſtil.

II. Being thus mortified or killed, put it into a Crucible, and upon it Pouder of Cryſtalline Arſenick half a dram; Tartar calcin'd to whiteneſs with Salt petre, as much.

III. You muſt have ready another Crucible, in the bottom of which let plates of Copper be made faſt, that they may not fall down when it is joined with the lower Crucible.

IV. Join both the Crucibles together, *viz.* That with the Mercury, Arſenick and Tartar, to that with the Copper, letting that with the Copper be uppermoſt, and lute them well together, that nothing may perſpire.

V. Then put them into a reverberating Fire for four hours: for the firſt hour let the Fire be ſoft and gentle; for the ſecond ſtronger; for the third approaching to the higheſt degree; and for the laſt hour cover all over the Crucible with live or burning Coals, and make the Fire very ſtrong for that hour.

VI. Then let the Fire go out, and the Crucibles cool: being cool'd, take forth the matter in the upper Crucible, adhering to the Copper plates, which keep.

VII. Take pure fine Silver ℥j. melt it, and put to it by

by degrees the Mercury found in the former ſuperior Crucible, and upon it crude Tartar, till you ſee the matter clear and ſplendid, ſo will your Silver be augmented to the one half.

CHAP. LXV.

To tinge Luna *into* Sol.

I. TAke of the red Oil of Antimony, and of the red Oil of Mars, of each ℥iij. diſtil them together till they be purely clear and red.

II. To this add the Oil of Sol ℥iv. mix them together, and boil or digeſt till they are all fixt into a fuſible Salt, or fixt Oil, which will be done by the help of the Oil of Gold.

III. When they are all fixt, project one part upon an hundred parts of pure Luna, and it will all be tranſinuted into fine Sol.

IV. Theſe Oils of Antimony and Mars we have already taught to make in ſeveral of the aforegoing *Arcanums*, as alſo the Oil of Gold, ſo that it is not neceſſary here to repeat the ſame again.

V. But the true Oil of Antimony we have not yet taught, but in the following Chapter you ſhall certainly find it.

CHAP. LXVI.

To make the true Red Oil of Antimony.

I. TAke male mineral Antimony (which is known by its long and ſparkling beams, for the female is different, and known by its ſlender and ſmall beams) ℥iiij. pouder and diſſolve it in ℔vj. of the Spirit of *May*-dew.

II. Mix them in a long neck'd Glaſs Matraſs; and

let them putrify in Horſe-dung for two or three months, or in the preſſings of the Vintage, where the putrefactive heat is more exact; and in which you may keep it for a month.

III. Then diſtil the matter by an Alembick put upon the head of the Matraſs, in warm Aſhes; and diſtil whatever you are able to bring over.

IV. That which comes over put upon freſh male mineral Antimony, and digeſt as before for a month, two or three, and diſtil it after the ſame manner.

V. Then put what is diſtill'd forth on freſh mineral Antimony, and digeſt it for fifteen days; then diſtil it *de novo ut prius*; and repeat this ſo often, till the Spirit of the *May*-dew does ariſe with the Spirit of the Antimony.

VI. Then take of this acid Spirit ℔j. of male mineral Antimony half a pound; digeſt them in warm Aſhes for a day, ſhaking the Glaſs often, till the acid Spirit be tinged of a red colour.

VII. This red Tincture decant by Inclination, and affuſe thereon freſh Spirit: repeat this ſo often, by pouring off, and putting on freſh, till you have a great quantity of tinged Spirit.

VIII. Put all theſe together, and diſtil them in *Balneo Mariæ* with a very gentle heat, till nothing more will ariſe.

IX. And in the bottom of the Glaſs Alembick, there will remain a red Tincture of Antimony: this diſtil *per Cineres*, and a red Oil of Antimony will aſcend.

X. This rectify two or three times in a Glaſs Retort, and the Oil will be pure red.

XI. This Oil diſtil with the Oil of Mars, and mix it all with an equal quantity of the Oil of Gold, and all ſhall be fixt as in the former Secret; and it is a moſt wonderful thing to tinge Luna into Sol.

XII. If you putrify male mineral Antimony in Horſe-dung with Water of Turpentine, the Spirit will be tinged into the colour of Blood.

XIII. This Spirit thus rubify'd, being digeſted upon new and freſh male mineral Antimony, will cauſe it to yield more copiouſly the Oil of Antimony.

XIV. And this Oil will be of the ſame Virtue with the former, being prepared after the ſame method, as when diſſolved in Spirit of *May*-dew.

CHAP.

CHAP. LXVII.

To fix Luna.

I. DIſſolve Sal Armoniack ℥j. in the Water or Flegm of Vitriol, and as much, *viz.* ℥j. of Sulphur Vive.

II. Diſtil them in a Glaſs Retort; and after that the Flegm of the Vitriol is come over, encreaſe the Fire, and ſublime the Sal Armoniack with the Sulphur Vive.

III. Caſt of this Sublimate a ſufficient quantity on melted Silver in a Crucible, and it ſhall be fixt to receive the following Tincture.

CHAP. LXVIII.

To extract a Tincture from Mars *to colour* Luna.

I. TAke Filings of the beſt Steel, heat them red hot in a Crucible, and quench them in ſtrong Vinegar: this repeat ſeven or ten times.

II. Then take ℥iv. of theſe Filings; of Sal Armoniack ℥ij. Mercury ſublimate as much: diſſolve the Sublimate and the Sal Armoniack in warm Water, and filter it.

III. Put this upon the aforeſaid Filings in a Glaſs Retort, or an Alembick: after two or three days abſtract the Water; and what remains in the bottom diſſolve in ſour Vinegar or Virgins Milk, and it will be tinged into the colour of Blood.

IV. Decant the Tincture, and affuſe more Vinegar or Virgins Milk, until the matter will yield no more Tincture: then diſtil it, and in the bottom of the Alembick will remain a moſt excellent red Oil.

V. This Oil will be better, and more penetrating, if you cohobate upon it the Vinegar or Virgins Milk, which will not aſcend, but remain in the bottom of the Alembick.

VI. One part of this Oil caſt upon fifteen parts of melted Luna, will turn it all into fine Sol.

VII. And if to this Oil, you join an equal quantity of the Oil of Gold, and fix them together in Aſhes by Digeſtion for a month, your Medicine will be the more perfect.

CHAP. LXIX.

To reduce Sol *into* Mercury *with common* Mercury.

I. TAke of the beſt Sol purified with Antimony, and made into ſmall Filings or thin Leaves, ℥ij. amalgamate it with ℥xxiv. of common Mercury, waſh'd and purg'd very well.

II. Divide the Amalgama into four parts, and put it into four ſeveral Glaſſes; add to it twelve times as much *Aqua Regia*, diſtilled with Sal Armoniack, as the Amalgama weigheth.

III. So divide this Water, that in each Glaſs there may be the weight of the Amalgama, ſo that theſe twelve parts may diſſolve the whole Amalgama in a month, by Digeſtion in Aſhes.

IV. When the Amalgama is diſſolved, diſtil off the *Aqua fortis*, and dulcify the remainder with Fountain Water, till all the Antimony of the Salt or *Aqua fortis* is taken away, and the Water comes off ſweet.

V. Let the Water be very pure and clear, or diſtilled; and have a care that no Duſt or Filth fall upon the Pouder.

VI. Dry all your matter very well in an Alembick, that the Mercury may be ſaved.

VII. Then encreaſe the Fire, that the whole Mercury may be brought over into the Recipient, and in the bottom you will find a calcined Salt, which reverberate for fifteen days in a Reverberatory.

VIII. So will your Sol be well calcined, and brought into an impalpable ſpungy Pouder.

IX. Take half this Gold thus calcined, and the Mercury

cury that was diſtilled from it, being well waſh'd from the Impurities it contracted from the *Aqua fortis*: take of it as much as of the calcined Gold.

X. Mix or amalgamate them very well together, by beating or rubbing them in a Mortar.

XI. Then put it into a Glaſs well ſtopt, which bury in warm Aſhes for five days, until it be reduced into a red Pouder.

XII. To this matter add a third part of freſh Mercury, beat or grind, and mix them together, and boil or digeſt them in a Glaſs Matraſs, till all be converted into a red Pouder.

XIII. Repeat this ſo often, until the Sol hath imbibed fifteen times its own weight of Mercury.

XIV. Put this Pouder into a great quantity of common Water diſtilled; ſtir it with your Finger, that the Water may be thick or troubled; then decant it whilſt it is ſo troubled, and put it into a Glaſs Veſſel.

XV. Put on more of the ſame matter upon the remaining matter, ſtirring and moving the Water, till it is troubled again; then decant it immediately.

XVI. Thus continue, until the Water has taken up all the Pouder; ſo will you have a very ſubtile Pouder.

XVII. And if there be any thing in the bottom, which will not be taken up with the Water; calcine it with Mercury, by mixing, grinding and digeſting them in a Glaſs Matraſs.

XVIII. Then paſs it all through Water, as before: take this Water, and let it ſettle, and let fall its Fæces; decant the Water from the Fæces; ſo will you have them of a Golden colour.

XIX. Dry them with a gentle Fire, and put them into a Glaſs Matraſs, and digeſt it in Aſhes for a day; then take out the Pouder, and beat or grind it in a Glaſs Mortar, and digeſt it in warm Aſhes as before.

XX. Then take it out and beat it again, and repeat this eight times, digeſting for a day at a time.

XXI. Beat or grind, and digeſt it again; then put the Pouder into a ſtrong Glaſs Matraſs well luted and ſtopt, and bury it in a very hot Sand, making under it a very ſtrong Fire, and the ſuperfluous Water of the Mercury will come forth firſt.

XXII. At laſt the Mercury will come forth in great quantities;

quantities; for all the Pouder will be turned into Mercury, and there will nothing remain in the Veſſel but a black Pouder.

XXIII. This Pouder, by a ſtrong Fire, will be turned into a black Glaſs. And thus is the Gold reduced into Mercury with common Mercury.

XXIV. The Mercury is amalgamated or joined with the Spirit and Soul of the Gold, and is called animated Mercury; of which are made Golden Mines by the following method.

CHAP. LXX.

To make a Golden Mine.

I. TAke of the Gold above calcined, whereof we have left a half part for this Arcanum: Take, I ſay, ℥iij. or as much as you have left; and put to it a third part of our animated Mercury, as before prepared.

II. Digeſt it in a Glaſs Matraſs, buried in Aſhes; then give a ſtrong Fire, that ſome of the matter in the Matraſs may be fixed.

III. Put back that which comes over in the Diſtillation, upon that which is fixed, and beat them together, incorporating, and mixing, and digeſting or boiling in a Matraſs till the Calx of Gold has drunk up much of the Mercury.

IV. And if the animated Mercury be ſpent with the Spirit of the Gold, then ſubſtitute in the place thereof common Mercury well (waſhed) diſſolved or purified.

V. So will the red Pouder encreaſe in an infinite quantity; and you may encreaſe as much of this Mercury as you pleaſe, making all running and live Mercury; and it ſhall be animated Mercury, and of the ſame Virtue and Efficacy with the former.

VI. Which muſt again be digeſted or boiled with the Calx of Gold, and by degrees converted into a red Pouder.

VII. Of this Pouder make little Pills with Gum Tragacanth diſſolved in Water, and project it upon melted Gold

Gold in a Crucible, and the Calx will be melted with the Gold, and the Gold multiplied.

VIII. After this manner will your Calx be turned into fine Gold, and your Mine be made to encreaſe for ever.

IX. But then you muſt keep the ſaid Calx of Sol fermented with the Water of Mercury, and convert it into a red Pouder, and then into animated Mercury, and this animated Mercury into a Calx, and this Calx project upon melted Gold.

CHAP. LXXI.

To make the aforeſaid Mine have the Virtue of tinging Luna *into* Sol.

I. TAke what quantity you pleaſe of this Mineral or Mine, and put it into a ſtrong Glaſs Matraſs well ſtopt, in warm Aſhes, with a gentle Fire, for fourteen days, till the Calx has acquired a moſt red Tincture.

II. This very red Tincture it acquires only by this Digeſtion, by Virtue of the Spirit of Gold, which gives the moſt perfect red.

III. If it be digeſted longer, it will acquire a greater red, till it looks like deep Saffron or burnt Blood, ſo deep will be the Tincture.

IV. Take of this rubified Calx of Sol ℥iij. of the Oil of Sol as much; and as much of the Oil of Mars, and the red Oil of Antimony, as above prepared.

V. Mix and incorporate all together, and digeſt till they are all converted into a moſt red Pouder: one part of this will project upon a thouſand parts of melted Luna, and tranſmute it into fine Sol.

VI. If this Pouder be diſſolved in our Virgins Milk, into a fixt Oil, be filtered and clarified afterwards, and digeſted and fixed into a ſweet Oil with Spirit of *May*-dew, as we have before taught in many of theſe our Arcanums, it will tranſmute ten thouſand parts of melted Luna into fine Sol.

VII. And if this Oil be yet ſubtilized and attenuated,

it

it will tranſmute Luna without Fire into Sol, and that by bare Infuſion of the Luna in the ſaid Oil.

CHAP. LXXII.

To tranſmute Mercury *into* Sol.

I. TAke Mercury ℔j. crude Vitriol, Verdigriſe, crude Tartar, common Salt, of each ℔j.

II. Put the Vitriol, Verdigriſe, Tartar and common Salt into an Iron Pot, upon which affuſe the ſtrongeſt Vinegar, that they may all be diſſolved.

III. Being diſſolved, put to Fire, that they may boil; and when they begin to boil, put the Mercury into the Pot, and continue the boiling till the half part of the Vinegar is conſumed, or ſomething more.

IV. Then take it from the Fire, and ſtir or ſhake the matter, and decant what is liquid into an Earthen Veſſel; and in the bottom of the Iron Pot you will find your Mercury half congealed or coagulated.

V. This waſh very well with common Water, till the Water comes off clear.

VI. Then digeſt all this Mercury again with the liquid part of the Vinegar which you decanted out of the Iron Pot; and clarify by adding new Vinegar, and boiling again for two or three hours in that Vinegar in which the Verdigriſe, common Salt, Tartar and Vitriol were diſſolved.

VII. After this decant the liquid part by Inclination, and you will find the Mercury half congealed: this Luna waſh again with common fair Water, till the Water comes off clear.

VIII. Expoſe this Mercury to a cold and moiſt Air for three nights, and it will be coagulated very hard.

IX. Reduce it into a very ſubtil Pouder, and mix it with the Yolks of Eggs and *Crocus Martis*, pure Earth (Chalk) *Stratum ſuper Stratum* in a Crucible, giving a ſtrong Fire for two or three hours; and your Mercury will be like Copper.

X. This join with an equal quantity of cupellated or teſted

tested Luna; melt them together, and test them, and you will find your Luna tinged.

XI. This tinged Luna melt with an equal weight of the best Sol, and all will be pure and fine Gold, of a most pure colour.

XII. And if your coagulated Mercury (made hard in the cold) be reduced into a most subtil Pouder, and imbibed with Oil of Mars, and then melted with Luna, all the Luna will be tinged into Sol.

XIII. And thus Mercury may be transmuted into the finest Sol, which shall stand all Tryals, if fine Sol be joined therewith.

XIV. For the Spirit of Verdigrise does convert and fix Mercury into Copper; and then the Oil of Mars does augments its Tincture, and communicate it to the Silver, and by adding fine Sol thereto, all is made into pure Gold.

CHAP. LXXIII.

To transmute Mercury *and* Luna *into* Sol.

I. TAke of the Mercury aforesaid coagulated and fixed in an Iron Pot, with Verdigrise, Vitriol, Tartar and common Salt: Take, I say, of this Mercury ℥vj. of Silver calcined with Salt, Sulphur and Mercury, as much.

II. Mix them well, and imbibe this Calx with the Oil of Mars three or four times, imbibing and drying it in a Crucible.

III. Add then of Mercury Sublimate ℥xvij. and beat or grind them well together, and imbibe it three or four times, imbibing and drying it in a Crucible: then melt it, and all will be pure fine Sol.

IV. This Sol, if thou dissolvest in our Vinegar or Virgins Milk, and it be digested into a red fixed Oil, and then conjoined with equal weight of the Oil of Gold, and fixed together, you will have an Oil, one part of which will project upon an hundred parts of melted Luna, and transmute it into fine Sol, at all assays.

CHAP.

CHAP. LXXIV.

To tinge Venus *into* Luna.

I. TAke of Luna calcined with Salt, Sulphur and Mercury, and three times repeated with freſh Salt, Sulphur and Mercury: Take, I ſay, of Silver thus prepared ℥xviij. which imbibe in the following Water eleven times, imbibing and drying in a Crucible upon the Luna.

II. Then take of Sal Armoniack ℥xviij. Mercury ſeven times ſublimed ℥xvij. mix them together and diſſolve them in warm Water diſtilled; and filter the Solution.

III. In this Water imbibe the aforeſaid Calx of Silver, and then diſſolve it in Spirit of Vinegar.

IV. That which will not diſſolve in warm Aſhes, calcine again with freſh Salt, Sulphur and Mercury.

V. This Calx imbibe and exſicate in the aforeſaid Water of Sal Armoniack ſo often, till it is all diſſolved.

VI. Theſe Solutions of Luna put into a Glaſs Alembick or Retort, cohobating oftentimes upon the remaining matter in the bottom, till the Vinegar does aſcend ſweet and inſipid.

VII. Then add freſh Vinegar, and again diſſolve and coagulate, and that ſeven times, till the Vinegar aſcends ſharp, and the Solution be turned into a fixed Oil or fuſible Salt.

VIII. One part of this Oil projected upon an hundred parts of melted Venus, turns or tranſmutes it all into good Luna.

CHAP. LXXV.

To tinge the ſame Venus *into* Luna.

I. TAke of the before prepared Alcali Oil, (in Chap. XXXVIII.) Mercury ſeven times ſublimed with fixed Sal Armoniack, of each ℥xx. II. Diſ-

II. Diſſolve them in warm common Water diſtilled; filter the Solution, and abſtract the Water by Diſtillation.

III. Take this Salt and Mercury, with Oil of Tartar, and diſſolve them in the ſtrongeſt Spirit of Vinegar, and diſtil to dryneſs.

IV. Cohobate this Spirit of Vinegar now drawn off ſo long, till the matter is converted into a fixt Oil.

V. Project one part of this Oil upon an equal weight of melted Luna; mix them well in a Crucible, and the Oil will be reduced to a Pouder.

VI. Take of this Pouder one part, and project it upon an hundred parts of melted Venus, and it will be all moſt fine Luna.

VII. If you diſſolve this Pouder in our Vinegar, it will be converted into a fixed Oil: one part of which will tranſmute a thouſand parts of melted Venus into the beſt and moſt pure Luna, not to be parallelled in purity, whiteneſs and ſound.

CHAP. LXXVI.

To tinge Luna *into* Sol.

I. TAke crude Antimony ʒxx. as much *Crocus Martis*: crude Tartar ʒxij. Salt Petre as much; pouder and mix them.

II. Then put it into a ſtrong Crucible, and with a violent Fire calcine for ſix hours; melt it well, that the Regulus may fall to the bottom of the Crucible.

III. The Crucible being cold, break it, and take out the Regulus; the reſt of the matter diſſolve in pure clear Fountain Water; boil the Solution, and filter it.

IV. To this filtered Liquor add, by degrees, diſtilled Vinegar, *viz.* drop by drop, and a Golden Sulphur of Antimony will precipitate to the bottom.

V. To this Sulphur well dryed add an equal quantity of *Crocus Martis*, and as much of fixed Sal Armoniack, with ʒxvj. of Mercury ſublimate.

VI. Mix them all and let them ſtand in a Glaſs Matraſs

traſs with a long neck, in a ſtrong Sand heat for a month; then diſſolve all in common Water, diſtilled and warm; filter the Solution, and it will be of a fine red colour.

VII. Diſtil it now to dryneſs, diſſolve again, and diſtil to dryneſs, doing thus fifteen times.

VIII. So ſhall you have at length a red fixt Oil; to which add the Oil of Sol and Oil of Antimony, and digeſt them in a Matraſs for a month, till they are all united and fixed together.

IX. So will you obtain a fixt Oil, one part of which being projected upon a thouſand parts of melted Luna, will tranſmute it all into good Sol at all aſſays.

X. But it will be more ſtrong and effectual, if the Luna on which you do project be fixt; yet the conſequence of this is not very great in this Work, becauſe here the *Oleum Solis* does fix the Luna.

XI. Thus have you a Golden Oil of the fixt Sulphur of Antimony, wonderfully Efficacious in the Tranſmutation of Metals, if you know how to work.

CHAP. LXXVII.

To tinge Luna *into* Sol.

I. TAke of the Water from the above prepared Regulus of Antimony (before the Sulphur is precipitated from it with Spirit of Vinegar) ℔ij. *Crocus Metallorum* well rubified as much.

II. Make an Amalgama or Paſte of the *Crocus*, which dry with a gentle Fire, then calcine it in a Crucible for four hours, after which diſſolve it in common diſtilled Water or *May*-dew.

III. Purify and filter the Solution; and what of the *Crocus* will not diſſolve, calcine in a ſtrong Crucible with a moſt vehement Fire for a day and a night.

IV. Then imbibe it again with the aforeſaid Water, and make it pure; which dry and calcine for two or three hours: after which diſſolve it in Spirit of *May* dew.

V. Repeat

V. Repeat this the third time, calcining what doth not diſſolve, till all the *Crocus* is turned into a moſt red Water.

VI. To this Water add Mercury ſeven times ſublimed, and digeſt till they be turned into a red Oil: project one part of this upon thirty parts of melted Luna, and it ſhall be all fine Sol.

VII. But if an equal quantity of the *Oleum Solis* be added to it, and fixed together in a Glaſs Matraſs for a month, it will be the more effectual and powerful in Tranſmutation.

CHAP. LXXVIII.

To make a Water of Mercury.

I. TAke of Cinnabar of Mercury ſublimed from Vitriol and Nitre three or four times, always taking freſh Nitre and Vitriol: the Mercury thus prepared by the Cinnabar, mix with a ſufficient quantity of pure white Salt of Tartar.

II. Diſſolve it by a Retort, and bring over the Mercury in a live and running body: this ſtrain through a Cloth or Leather, and mix with it an equal quantity of common Mercury.

III. Put them together into a Retort, and digeſt in Balneo for eight days, then diſtil by a Retort in Aſhes, ſo will you have a Water come over in great quantity.

IV. That which remains in the bottom will be a white Salt, which diſſolve in a moiſt place, and rectify it by Diſtillation in a Retort, always diſſolving what remains in the bottom.

V. That which will not aſcend, join with your firſt diſtilled Water, and rectify it ſeven times, and it will be the beſt Water for performing of many great Works, but chiefly the following Secrets.

CHAP.

CHAP. LXXIX.

To tinge Venus *into* Luna.

I. TAke Luna calcined with Salt, Sulphur and Mercury ℥iij. dissolve this Calx of Luna in a sufficient quantity of the afore prepared mercurial Water.

II. Digest this Dissolution in a gentle heat, and distil off the *Aqua Mercurii*, and cohobate it on the matter, till nothing more will rise or ascend.

III. Thus at length you will have *Oleum Lunæ*, which will transmute Venus into good Luna, one part being projected upon fifteen parts of melted Venus.

CHAP. LXXX.

Another way to make the Aqua Mercurii.

I. TAke of Sol calcined with Mercury, Salt and Sulphur ℥iij. dissolve it in the above prepared mercurial Water.

II. Distil the Solution, and cohobate so often upon the Solar Calx, till it is converted into a fixed Oil, or fusible Salt, having passed through all colours, and becomes red, fixt and fusible as Wax.

III. One part of this fixt Salt will transmute an hundred parts of fine Luna into pure and fine Sol.

IV. If this Oil be joined with a sufficient quantity of the *Aqua Mercurii*, and distilled, and all be made volatile; and after, by constant Digestion, be again fixt, its Power and Virtue will be multiplied *ad infinitum*.

CHAP.

CHAP. LXXXI.

To make the Aqua Mercurii *another way.*

I. TAke common Mercury well washed and squeezed through Leather, and inclose it in a strong Matrass with a long Neck, which Seal up Hermetically.

II. The Matrass being thus Sealed up, put it into a putrifying heat, with Woad, *viz.* where the Woad is prepared in the Shops to Dye Cloth with, there being a great heat, for four or five Months; let the Glass I say be buried in the warm Woad up to half the Neck.

III. Leave it in that heat for three or four Months, and in that time will all your Mercury be turned to Water, which rectify seven times, till it be most clear, pure and limpid, and leaves no Fæces in Distillation.

IV. With this Mercury you may work great Things in the perfect Metals, by dissolving and coagulating them, and converting them into a fusible and fixed Salt.

V. Thereby you have many Secrets and Elixirs to tinge Luna into Sol, and Venus into Luna; and the rest of the imperfect Metals, as Tin and Lead into Sol and Luna.

VI. This *Aqua Mercurii* may be made in a putrifying heat of the pressing of Grapes, which being rectified, is of the same Vertue and Efficacy.

CHAP. LXXXII.

To make an Elixir of the white Stones found among Lead.

I. TAke the white Stones which are found in Leaden Mines, and towards the North of the same Mines, for that it is most moist: Take I say a Stone newly taken out of the Mine, and break it into little pieces, with little pieces also of the Mine or Ore.

II. Put them all into a Retort well luted, and Distil for two days in a strong Fire, till the Retort grows red hot.

III. Let the Recipient be large, and to a third part full of the Spirit of *May* Dew, that it may receive the Spirits that come over.

IV. When all the Spirits are drawn over, and the Retort has been kept in a red hot heat for two or three days, then take it from the Fire, and being cold, break it.

V. If the matter be of a red colour, it is well; but if it be more of a white, then it is to be calcined in a Crucible, with a very ſtrong Fire, for ſix or eight hours.

VI. Now we come to the Water, which is to be Diſtilled with a very gentle heat, till the Acid Spirits aſcend, or are come forth, which are to be received in an open Veſſel.

VII. And the Spirits of *May* Dew, which will aſcend firſt, are to be kept; but in the Acid Spirits are to be diſſolved the calcined matter, upon which a great quantity of the ſaid Spirit is to be put, and in a Glaſs Veſſel.

VIII. Let it be well ſtopt, and made to boyl for an hour, then filter and purify it.

IX. Upon the matter remaining undiſſolved, put more Acid Spirit, and boyl it again in a Glaſs Veſſel cloſe ſtopt, for an Hour, which filter and clarify as before.

X. Mix and Diſtil all the Solutions to dryneſs, and diſſolve the matter again, by affuſing thereon all that which has Diſtilled over.

XI. This Solution filter and clarify, and Diſtil again; which Work ſo often repeat, till you have a white Salt or Pouder.

XII. If all the matter will not yet diſſolve, but ſome of it does remain, it muſt be calcined again, and diſſolved as before, till the whole or intire matter is diſſolved and converted into a fuſible Salt, which is ſo often to be diſſolved in our Acid Spirit, till by repeated Diſtillations it is brought to a Volatility.

XIII. And it is then farther to be diſſolved in the ſaid Acid Spirit, till by repeated Diſtillations it is brought to a Water, which is to be rectified ſeven times at the leaſt.

XIV. Then it will have acquired an exceeding penetrating Vertue in diſſolving of all Metals; and in this Water thus prepared is to be diſſolved the perfect Metals, as Sol and Luna; one part of the Metal in ten parts of the Water.

XV. Mix,

XV. Mix, diſſolve and digeſt the Solution, or boyl it in a Glaſs Matraſs, well cloſed or ſealed up Hermetically which is better: Digeſt for Nine or Twelve Months, until the Water, with the Metal diſſolved, be converted into a fuſible Salt, fixed and red, if you have diſſolved Sol in it; or fixed and white, if you have diſſolved Luna in it.

XVI. Thus at length is it become a wonderful and ſtrange Secret, the true *Arabian* Elixir, ſtupendiouſly converting all impure Metals into Sol or Luna.

XVII. And by diſſolving this Pouder after Congelation, in new and freſh Water above prepared, it acquires far greater Vertues in Tranſmutation.

XVIII. And from hence its Vertues and Force may be augmented to an Infinity.

CHAP. LXXXIII.

To prepare an Elixir from Pearl.

I. TAke Golden or Silver coloured Pearls, as many as you pleaſe, Pouder them, and mix them with an equal quantity of Sulphur Vive.

II. Calcine them in a Crucible, with a ſtrong Fire, until the Sulphur be conſumed; then add new, but not ſo much as before, and Calcine it as formerly.

III. Increaſe the Fire, and make the Crucible red hot, for four or ſix hours; then let it cool, take out the matter and beat it ſmall.

IV. Put it into a Retort, lute it well all over, and Diſtil in a ſtrong Fire, that all the Acid Sulphureous Spirits may come forth, which are to be received in a Veſſel half full of *May* Dew.

V. When all the Spirit is come over, break the Retort, and take out the matter, Pouder it, and expoſe it to the cold Air for a Night; then put it into a well luted Retort, and with a ſtrong Fire Diſtill it into the ſame Receiver, that the yet remaining Sulphureous Spirits may be brought over.

VI. Repeat this Work ſeven times, expoſing it to the Air, and then Diſtilling of it, until the Water in the Recipient have an Acid Taſte.

VII. Diſtil this Water in a gentle Fire, leſt it boyl, and when the Acid Spirits come forth, change the Receiver, and put a clean Receiver to, that you may receive them apart.

VIII. Rectify them ſeven times, that they may be purified; and in this Acid Spirit diſſolve the matter left in the bottom of the Retort, after the firſt Diſtillations.

IX. And in a Glaſs well ſtopt, with a gentle Fire, digeſt the Solution, then filter it, and upon the remaining undiſſolved matter, put more Acid Spirits.

X. Diſſolve by Digeſting, and filter the Solution; this do till the greater part of the matter prepared from the Pearls be diſſolved.

XI. Diſtil this Solution to dryneſs, and put the remaining dry matter into the Water Diſtilled from it; purify and filter the Solution; this do till you have a pure Salt, without any Fæces ſubſiding in the Solution.

XII. Take of this Salt what quantity you pleaſe, and diſſolve it in freſh Acid Spirit well dephlegmated, and digeſt the Solution in a gentle heat.

XIII. Then diſtil to dryneſs, keeping the Vinegar, and caſting away that which comes over firſt, becauſe it is inſipid; or if you pleaſe, you may put it to the inſipid Diſtilled Water.

XIV. Repeat this Work till the Salt becomes Volatile, and aſcends with the Acid Spirit.

XV. And thus often diſſolve it in the ſaid Vinegar, always ſeparating the Flegm which comes firſt, and repeat it till your Salt be turned into an Acetum, and riſes with the Acid Spirit.

XVI. This Spirit rectify ſeven times, by ſeparating it from its Flegm; and in this Spirit thus rectified, diſſolve the perfect Metals, one part in ten parts of this Divine Water.

XVII. Digeſt this Solution in a Glaſs well ſtopt, or Hermetically ſealed, (leſt any thing aſcend) until the matter is fixed into a fuſible fixed Salt.

XVIII. But firſt it is to be diſſolved four times in our Acid Water, and fixed and coagulated.

XIX. Thus have you at length an Elixir moſt powerful for the Tranſmutation of imperfect Metals into Sol and Luna.

XX. If

XX. If there be Sol or Luna diſſolved in this Acid Water, and congealed by a continual Digeſtion, you will have a ſtupendious Elixir for the Great Work.

XXI. This Metallick Spirit of a Mineral may be drawn from any Marchaſite or Mineral, becauſe it is inherent in them, and does give the Formal and Eſſential Being to them all.

XXII. But the way of drawing it is more facile in ſome than in others.

XXIII. And the true way, according to the Chymical Art, is here moſt faithfully delivered, if you underſtand the way of Calcining, Diſſolving, Diſtilling, and ſuch other like Chymical Operations.

XXIV. For theſe things are abſolutely neceſſary for you to know, that you may ſeparate from the Spirit all Fæculential Impurities, the Droſs or Lees of the Elements.

XXV. This being thus perfected, there remains nothing at laſt to be done, but only to Digeſt.

CHAP. LXXXIV.

To make ſmall Pearls into great ones.

I. TAke of the leaſt, yet cleareſt and brighteſt Pearls, what quantity you pleaſe, diſſolve them in our Acid Spirit, or in the Water of Mercury, Diſtilled Twelve times, or more, till it is ſweet and clear.

II. In this Water I ſay, diſſolve your Pearls in a Glaſs, which ſtop well, and put it over a gentle heat.

III. When all your Pearls are diſſolved, filter the Solution, and purify it, and Diſtill in a gentle Balneo.

IV. When the Diſtillation is over, cohobate the Diſtilled Water upon the remaining matter, that it may again be diſſolved and purified.

V. This Work reiterate ſo long, that at length it may diſſolve without any Fæces, and remain more clear and ſplendid at the bottom of the Alembick, like true Pearls.

VI. Then have in a readineſs Silver Moulds, which let be gilded with Gold, made of that bigneſs and Figure you deſire your Pearls to be of.

VII. And with a Silver Spatula take your matter thus prepared and fill your Moulds on both parts, which let be perforated with a ſmall hole, to paſs a Silver Wire or Thread through, that the Pearls may be bored through.

VIII. Then cloſe your Moulds, (being full of the prepared matter) and let them ſtand for two or three days in a warm place, that they may harden.

IX. After which take out your Pearls from the Moulds, and put them into a warm Glaſs, which cover with another Glaſs.

X. Or rather hang them in a Phial with a Thread faſtned to them, and tyed about the Neck of the Phial; which Phial ſtop, and let it ſtand in a moderate heat for fifteen days, that they may be well hardned.

XI. After that your Pearls are well hardned, take your Mercurial or Acid Liquor, wherein you diſſolved your Pearls, and reduced them to their firſt matter; in which Liquor let ſome of your Pearl be diſſolved.

XII. Often repeat the Diſtillation, till your Pearls are turned to a Volatile Salt, and then to a Liquor.

XIII. Take this Water or Volatile Salt of Pearls, and put it into the Glaſs where your Pearls are ſuſpended.

XIV. Let the bottom of the Glaſs be round, but let not the Pearls touch the Water, but hang as it were about the middle of the Glaſs, your Water covering ſomewhat more than the bottom thereof.

XV. This done, ſtop up the Glaſs cloſe, and let it ſtand to digeſt in a warm place, or gentle heat, for a Month, or ſo long, till your Pearls ſhine, and are of a ſplendent Colour, ſo as to pleaſe you; then keep them, for they are perfect.

XVI. Almoſt after the ſame manner you may prepare great and refulgent Rubies from ſmall ones; but yet it is after a more perfect way and manner.

XVII. If you project of the fixt Oil of Gold on melted Cryſtal, you may prepare excellent Rubies or Carbuncles according to Art.

CHAP.

CHAP. LXXXV.

To make malleable Glaſs.

I. TAke Oil of Luna Twenty Drachms, Oil of Mercury, or its Water ſeven times rectified, one Pound; mix them together and Diſtil them.

II. Repeat the Diſtillation till the *Oleum Lunæ* riſes with the Water of Mercury in Diſtillation.

III. Diſtil this Water again till it is fixed, and converted into a fixed Oil; and this repeat four times.

IV. In the fourth time the Oil of Luna is fixed with the Oil of Mercury, ſo that they render Glaſs malleable; for ſo great is the Viſcoſity in your Oil, that it removes the brittleneſs of the Glaſs, and ſo leaves it of a malleable temper.

V. The reaſon is, becauſe that the Radical moiſture of the Glaſs is multiplyed by the Radical moiſture of the Metals, which is plentiful and turgent, or ſwelling in the Oils of Luna and Mercury.

VI. And if in this Oil made Volatile, Diamonds ſhould be diſſolved, and then digeſted into a fixt Oil, it would tranſmute all Glaſs into Diamonds, only by projecting this Oil on melted Glaſs.

VII. There are alſo other precious Stones comprehended within this Oil, when it is made Volatile, and digeſted, and fixed again by Digeſtion continually, for the ſpace of a year.

VIII. Alſo this Oil can turn Glaſs into precious Stones of any kind whatſoever, if therein, (being made Volatile) precious Stones of the ſame kind have been diſſolved and digeſted with it into a fixed Oil.

IX. For as Metals are included in their fixed Oils, ſo are precious Stones in theirs, as *Raymundus Lullius* doth witneſs in many places; the which thing we ſhall teach you in the following Chapter.

CHAP. LXXXVI.

To make Carbuncles of Cryſtal.

I. TAke Oil of Sol three Ounces, Oil of the Vital Mercury before prepared, two Pounds; diſſolve the Oil of Sol in the Water or Oil of Mercury.

II. This Diſtil ſo often, by cohobating the Water of Mercury upon the Oil of Sol, till it does aſcend both red and clear.

III. In this clear and limpid Oil diſſolve the beſt Rubies, purify the Solution, and Diſtil it ſo often till all comes over, and the Oil does ſhine and ſparkle in the darkeſt of places; (for the Goodneſs and Beauty of Carbuncles conſiſt in their Splendent Rays.)

IV. Keep and digeſt this Water in continual Digeſtion for a Year in a Glaſs Matraſs, Hermetically ſealed up, till it is moſt perfectly fixed, which will be in about a year.

V. Take this Radiant, or Glorious Red fixed Oil, and project it upon melted Glaſs, or rather Cryſtal, a Pound in weight.

VI. For if you uſe leſs than a Pound weight of Cryſtal, the Cryſtal would be turned into a Medicine; but two or three Grains or Drops will be ſufficient for a Pound of melted Cryſtal, and will turn it into a pure and ſhining Carbuncle, which you muſt cauſe the Lapidaries to poliſh.

VII. This Oil of Carbuncles is profitable to preſerve Health, and is equal in Virtues and Properties to the Oil of Gold, for the conſervation of the ſame, and the prolongation of Life, even beyond the bounds of Humane Nature.

CHAP. LXXXVII.

To beautify Trees with Fruit three times in a year.

I. TAke of that Fruit which you would have to grow, three times a Year, beat it, and expreſs therefrom the Juice, which put into a Wooden Veſſel well cloſed, adding to it a little Salt, and place it in a Cellar.

II. When

II. When it grows warm, diſtil it in a gentle heat, to obtain its Spirit; which rectify, and ſeparate from its Flegm.

III. Keep it all, and rectify it ſeven times, and reſerve the Spirit in a Glaſs Veſſel well ſtopt.

IV. The Flegm rectify ſeven times or more, till it emits no Fœces, but aſcends pure.

V. All the Fœces or Body of the Fruit calcine (adding new Fruit in Calcination) in an Earthen Pot able to endure the Fire, and in an open Fire calcine alſo a great quantity of Fruit, that you may have good ſtore of Aſhes.

VI. Let the Aſhes be calcined to a whiteneſs: diſſolve the Salt in the rectified matter, by boiling in a Glaſs Veſſel well ſtopt.

VII. When it boils, purify the Solution by Filtration; then calcine the Aſhes again in a ſtrong Crucible; which done, boil them in new Flegm ſeven times rectified.

VIII. Purify the Solution by Filtration; mix all the Solutions together, and diſtil them to dryneſs.

IX. Calcine the Salt remaining in the bottom, and with a gentle Fire melt it: then diſſolve it again in diſtilled Flegm, and purify it by Filtration.

X. Then diſtil again, and repeat theſe Operations, till you have a moſt white Salt.

XI. Diſſolve this Salt in the above reſerved Spirit, diſtil them together, and cohobate very often, till the above-mentioned Salt does riſe with the Spirit.

XII. This Salt ariſing, you have in readineſs the Fruit of that kind, from whence this Spirit and Salt did proceed.

XIII. Now beat and bruiſe your Fruit, and mix it with ſome of your Flegm, and a little of your Spirit; mix them well, and put them to grow ſowr in the Sun, and let the Flegm be turned into Vinegar.

XIV. This Vinegar diſtil often, and in it diſſolve your fixt Salt, and by reiterated Cohobations convert it into a fuſible Salt.

XV. This Salt volatilize with its Spirit; and being volatile, turn it into Water, to which add half of your Salt melted, and digeſt it into a fixt Salt.

XVI. This fixt Salt volatilize after the former manner, and

and convert it into Water; to which add half of your Salt melted; convert it again into a fixt Salt, by boiling it in a close Vessel.

XVII. This Work you must do four or seven times, making the fixt volatile, and the volatile fixt; and so you shall attain the aforesaid Secret; whose Virtue and Property is to adorn Trees three times a year, with the Fruit of its own kind.

XVIII. The way and manner of doing it, is thus: Take of your melted or fixt Salt ℥j. and dissolve it in five quarts of common fair Water, or *May*-dew: and with this Water, water or sprinkle your Tree, and it will cause it to flourish with Leaves and Fruit every three or four months.

XIX. But you must observe to gather the Fruit as soon as it is ripe; and then presently again to water the Tree every day with a little of your former Water, wherein is dissolved an ounce of your said fixt Salt.

XX. It is also to be watered with other common Water, not forgetting also very well to dung and prune the same.

XXI. Hence we may conclude the Salt is made volatile and fixt, by means of the Ferment.

XXII. If you dissolve the Salt in *May*-dew, and in this impregnated Water moisten or steep Corn, it will be very much multiplied; the encrease will be much more plentiful, and the Grains and Ears of Corn will also be much larger.

XXIII. After this manner you may multiply and encrease any other Fruit or Grain whatsoever, in very large proportions.

CHAP. LXXXVIII.

To fix Mercury *with the Salt of Tin.*

I. TAke pure Salt of Tin purified from all its Fœces ℥vij. Mercury seven times sublimed ℥iij. mix and incorporate them together, and in a strong Glass sublime them.

II. Sub-

II. Sublime a ſecond time upon the Fœces which are left in the bottom of the Glaſs.

III. Then weigh it, and if it be heavier than it was, it is well, and doth begin to fix a part of the Mercury with the Salt of Tin.

IV. Continue the Sublimation of the Mercury upon the Fœces, by beating and mixing them together, until all be fixt, and the Mercury remain in the bottom.

V. This will be done about the fiftieth time; for the Mercury is very ſlowly fixt; but at length it doth fix, and give a metallick Fuſion, as *Geber* witneſſeth.

VI. For the Proof of the Truth hereof, when you have thus fixt Mercury, add a little new Mercury ſeven times ſublimed, *viz.* about ℥ij. or ʒij. which you ſhall mix and ſublime together, and immediately about the third or fourth part will be fixt by the Sublimation, and converted into a fuſible and fixt Mercury.

VII. Repeat this four or ſeven times, by adding to your fixt Mercury, new Mercury ſeven times ſublimed, until you have a great quantity of Mercury fixt, and flowing as Wax.

VIII. One part of this projected upon an hundred parts of melted Copper, will tranſmute it into fine Luna.

IX. And being projected upon fine Luna melted in a Crucible, it will turn the Luna into a Medicine, of the ſame Virtue and Property.

To fix Mercury *into a white Oil, which will tranſmute impure Metals into* Sol.

CHAP. LXXXIX.

I. TAke pure Oil of Mars ʒiv. Oil of Sol ℥iv. mix them together, and add thereto Mercury ſeven times ſublimed ʒiij. mix and ſublime them in a ſtrong Glaſs Matraſs.

II. What ſublimes put back to the Fœces, till at length it be all moſt perfectly fixt.

III. Add to it new Mercury ſeven times ſublimed ℥ij.

and

and mix them together, by beating and grinding them; and ſublime ſo long till that which remains in the bottom of the Matraſs be fixt, and will melt as Wax, and be congealed in the cold.

IV. Take of this matter one part, and project it upon crude Mercury one hundred parts, and the Mercury ſhall all of it be turned into good Sol.

V. Alſo if you project it upon Saturn, Jupiter or Venus, it will turn them all into fine Sol.

VI. And if this Mercury be fixt, and tinged with the fixt Tincture of Sol, it will tranſmute all Metals into Sol.

VII. For Mercury thus prepared, is true Sol opened, fixing and tinging all the imperfect Metals into its own Subſtance.

VIII. Which Subſtance being perfect and communicable, it tranſmits its Perfection to impure Metals, and perfectly digeſts their indigeſted and imperfect Subſtance.

CHAP. XC.

To fix Mercury *into a white Oil, which will tranſmute impure Metals into* Luna.

I. TAke *Oleum Lunæ* and *Oleum Jovis*, of each ℥iij. to which add Mercury ſeven times ſublimed ℥ij. mix and ſublime them together.

II. Put back what is ſublimed to the Fœces, and repeat this Work ſo long, till all the matter be fixt together in the bottom of the Glaſs Matraſs.

III. To this fixt Mercury add freſh or new Mercury ſeven times ſublimed, and ſublime as before, till all be fixt in the bottom of the Matraſs.

IV. And that it may the ſooner fix, add to every Sublimation freſh Mercury: and repeat this till you have a white Oil flowing like Wax, and fixt.

V. Take one part of this Oil, and project it upon an hundred parts of any imperfect Metal, and all will be converted into moſt fine Luna.

VI. If this Oil be diſſolved or mixed with Mercury-Water,

Water, and make volatile, and again fixt by Digeſtion, for a year, in a ſtrong Glaſs Matraſs Hermetically ſealed, you will have a white Elixir, which will project upon all the imperfect Metals, one part tranſmuting a thouſand parts.

VII. He who underſtands this Art, will not contradict theſe Secrets; yet they require an ingenious and exquiſite Artificer or Operator to perform them.

CHAP. XCI.

To make a red Tincture of Nitre.

I. TAke the beſt Nitre and pouder it; calcine it with Charcoal in an Iron Crucible or Pot: diſſolve the calcined matter in Spirit of *May*-dew, filter and diſtil it to dryneſs.

II. Calcine it again with a ſoft and gentle Fire, taking great care it melt not, then diſſolve, filter and diſtil it again.

III. Repeat this Work, always diſſolving with freſh *May*-dew, until you have a fixt Oil of Nitre flowing like Wax.

IV. This Oil is to be made volatile, by often diſſolving, diſtilling and exſiccating of it.

V. Take of this volatile Salt, a large quantity, and with *May*-dew, putrify it for a month in Horſe-dung in a Glaſs Matraſs well ſtopt.

VI. Then diſtil till all your matter is converted into the Spirits of *May*-dew, and is purely volatile, and ſeparate it from its Flegm by a gentle heat in Balneo.

VII. That which remains in the bottom of the Veſſel, and will aſcend by the heat of a Balneum, diſtil *per cineres*, and repeat it ſeven times.

VIII. So have you the pure and univerſal Mercury of the World, moſt ſubtil and volatile; by the help whereof moſt wonderful things are to be done in Chymiſtry, but chiefly in the following Secrets.

CHAP.

CHAP. XCII.

To make a white Elixir.

I. TAke of Leaf Silver, or Silver Calcined, as much as you pleaſe, diſſolve it in a ſufficient quantity of this Mercury, and the Univerſal Liquor above prepared.

II. Digeſt the Solution for Eight days in Horſe Dung, then Diſtil it to dryneſs.

III. Cohobate that which Diſtils over upon the remaining matter, always putrifying the Solution for eight days.

IV. Repeat this ſo often, till the Solution of the Luna aſcends with the Spirit which diſſolved it; this Water Diſtil ſeven times in new Retorts.

V. Put to this Spirit or Water as much cupellated, teſted, or refined Silver, as it will diſſolve.

VI. This Solution being clear and pure, put it into a long Necked Glaſs Matraſs, which ſtop well, and digeſt it in an Athanor, until it is fixed into a white Oil.

VII. One part of this Oil will tranſmute a thouſand parts of any other Metal into pure Luna; it will alſo tranſmute crude Mercury into fine Silver, one drop thereof being caſt upon it.

VIII. If you yet proceed farther, and make this *Oleum Lunæ* thus prepared Volatile, and then bring it again into a fixed Oil, it will tranſmute all other Metals into fine Luna, without any Fire.

IX. And one drop being put upon the Metal, it will penetrate even to the Center of the Metal, and will tinge and tranſmute into fine Luna all imperfect Metals upon which it is projected.

X. But if it be ſeven times turned into a Water, and then fixed again, it will Tranſmute in an infinite manner the ſaid imperfect Metals into Luna.

XI. And if it be projected upon Luna, it will turn the Luna into a Medicine of the ſame vertue and property: Thus will your Medicine be multiplyed *ad infinitum*; nor need you to do the ſame Work over again *de novo*.

CHAP.

CHAP. XCIII.

To make a red Elixir for Transmutation of all other Metals into Sol.

I. TAke of the best Sol seven times purged with Antimony, in fine Filings, or in Leaves, 18 Drachms, dissolve it in our above prepared Spirit.

II. Digest the Solution in a Glass Retort *in Balneo Mariæ* for eight days, then Distil it in Ashes.

III. Cohobate upon the matter in the Retort, (and if need be, add new Spirit to help it to dissolve) so often, till the Sol does ascend with the Spirit in a red or white Water.

IV. In this Water seven times Distilled, dissolve as much fresh Sol as it will take up, and digest this Solution in a Glass Hermetically sealed, till it be turned into a most Red Oil.

V. This Oil is wonderful in preserving of Health; one drop taken once a Week does prolong Life beyond the bounds of Humane Nature.

VI. Being projected on base Metals, it Transmutes them into fine Gold; and being projected on Sol, it changes it into a Medicine of the same vertue; and cast on Crystal, it produceth Rubies and Carbuncles.

VII. It also makes Glass malleable, and Rubies to be of a resplendent Colour; it multiplys the Fruits of all sorts of Trees, if some drops be dissolved in Water, and the Tree watred therewith.

VIII. It likewise renders all Animals more pleasant and strong, and prolongs their Lives: Thus by this Medicine, (which exceeds all others) is whole Nature renewed.

CHAP. XCIV.

To prepare the Spirits of May Dew *for the former Secrets.*

I. GAther Dew in the Month of *May*, with a clean white Linnen Cloth spread upon the Grass, which expres

expreſs from the Cloth; thus gather a very large quantity, and filter it.

II. Put this into a great and capacious Glaſs Matraſs, which ſtop well, and digeſt it in Horſe Dung for fourteen days, then Diſtil it *in Balneo* to a fourth part.

III. This fourth part remaining, caſt away, for it is nothing worth; and that which was Diſtilled, digeſt again in a large Matraſs well ſtopt, in Horſe Dung, for fourteen days.

IV. Then Diſtil to a fourth part, as before; do thus four times, digeſting what is Diſtilled over, and Diſtilling always to a fourth part, caſting away every time the ſaid fourth part remaining in the Matraſs.

V. Thus will you have a moſt pure Spirit of Dew, and very penetrating; by the help whereof you may prepare the Calcined Sol or Gold; make it Volatile, and turn it into Water, as we have taught in Chap. 61 aforegoing.

VI. Thereby Salts are Calcined, made volatile, and fixed, and converted into a volatile Spirit or Water.

VII. And by the help thereof all the fixed Salts of Metals are made volatile, and converted into a Spirit or Water; and if you are indeed an Artiſt, you may by this turn all Metals into their firſt matter.

VIII. And out of this pure matter, freed from all its Fæces and Excrements, is made an Elixir of a wonderful virtue in Tranſmuting of Metals.

CHAP. XCV.

The fixing of Arſenick.

I. TAke well ſublimed Arſenick, and mix it with Oil of Tartar, and make it into a Paſte, with Water of Sal Armoniack, ſo as it may be a ſoft Paſte.

II. Put this Paſte into a Glaſs Matraſs well ſtopped, and Digeſt it in a temperate heat for Twenty Four hours.

III. Then take it out and grind it on a Marble, moiſtening it with Oil of Tartar and Water of Sal Armoniack, and Digeſt it again, repeating this Work four times.

IV. Then grind it well on a Marble, diſſolve it in Horſe Dung in a Glaſs Matraſs well ſtopt, and congeal or evaporate upon warm Aſhes.

V. Diſſolve

V. Dissolve it again in Horse-dung, and amalgamate it five times; so will you find your Arsenick fixed and flowing as wax; one part of which will tinge twenty parts of Copper.

VI. If this Oyl be dissolved in Spirit of May-dew, and purified, and then joyned with an equal quantity of *Oleum Lunæ*, and *Oleum Mercurii*, and coagulated; it will tinge yet more powerfully.

VII. One part thereof being projected upon an hundred parts of melted Venus, will tinge and transmute it all into fine and most pure Luna.

CHAP. XCVI.

To resolve Sol *into its first matter.*

I. WIthout regeneration no Medical or Chymical Arcanum is possible to be attained: therefore if you desire to obtain any thing from the common Gold, it must be regenerated.

II. If that this Gold may be regenerated, it is to be reduced into its first Principles, but chiefly into its vital Sulphur, the Balsam of whole nature.

III. This Sulphur is called Gold; and Gold freed from its Fetters, is enabled to exercise its vertue and strength, and those Actions and Properties that lay hid in it.

IV. To discover this, we must dissolve Gold with Gold, that is, with the internal Sulphur of Nature, which lurketh or lyes hid in all things.

V. Let us with common Sulphur, so often draw the Sulphur from other things, that in its center it may comprehend the Sulphur of another.

VI. Take therefore common Sulphur in a very great quantity, *viz.* as much as you please; and dissolve it in common *Aqua-fortis*; and circulate it in a glass Matrass well stopped, till the *Aqua-fortis* be sweet and insipid.

VII. Then draw it off by diſtillation, and put it on freſh; digeſt and circulate in warm Aſhes, till it alſo be ſweet, which diſtil off as before.

VIII. Do thus till the *Aqua-fortis* will be no more ſweet, but ſharp, and comes over ſtrong: then force it all over; and the remaining matter digeſt till it waxes white; and continue the heat till it grows of a pure colour.

IX. This matter is ſo often to be diſſolved in the rectified Spirit of Wine, (the Spirit being freſh every time) until a moſt red Tincture does aſcend with the Spirit.

X. This Tincture is to be ſeparated from the Spirit of *Wine* by diſtillation *in Balneo*.

XI. Then the Glaſs is to be removed into Aſhes, where the Tincture is to be diſtilled off; and you are to rectifie it ſeven times.

XII, In this Tincture which is the true Sulphur of Nature, is Sol to be diſſolved, in a very gentle heat; and being ſo diſſolved, to be circulated, and ſo often diſtilled till it aſcends with the Sulphur of Nature.

XIII. Then diſſolve more common Sol in this Sulphur, and in a well ſtopt Glaſs digeſt until all be converted into a moſt red Oyl, fixed and of a moſt ſweet odour.

XIV. This moſt fragrant Oyl preſerves and prolongs life, and has wonderful effects in tranſmutation.

XV. This Oyl wants an equal in Alchymy: for one part thereof will tranſmute a thouſand parts of any imperfect Metal; by projecting it thereon.

CHAP. XCVII.

To make the Spirit of Mercury.

I. TAke Mercury ſublimate ℔j. of the beſt Potters Clay ℔iij. pouder them both, and with Spirit of May-dew, malax them together, and make little Balls thereof, which dry.

II. Being dryed, moiſten them with Wine, and dry again: then put them into a Retort well luted, and give fire by degrees for four and twenty Hours.

III. I

III. If any thing ſublime into the neck of the Retort, mix it with more Clay, and moiſten it with the liquor which comes over, and again diſtil it, till nothing ſublime, but that the Mercury paſſes over in a Spirit.

IV. This Spirit rectifie ſeven times at the leaſt.

V. With this Spirit you may do wonderful things in tranſmutation of Metals, for which cauſe I have inſerted it among theſe Secrets.

CHAP. XCVIII.

To make a Spirit of Lime, which will diſſolve all things.

I. TAke Quicklime, what quantity you pleaſe, and diſtil Spirit of Wine from it ten or fifteen times; renewing the Spirit, and often pouring freſh on the Calx or Lime, remaining at the bottom.

II. Take of this Calx three Parts, of Potters Clay eight parts: of pure Salt of Tartar one Part: mix them together, and in a luted Retort, diſtil them with a ſtrong Fire, until all the Spirits come forth.

III. Rectifie this Spirit well: Then will it diſſolve all Metals, and work Wonders in Tranſmutation.

IV. If you diſſolve Cryſtal in this Spirit; you ſhall have a Salt of Cryſtal; and a true Secret for diſſolving the Stone in both Reins and Bladder.

V. The Doſe is half a Drachm in *Wild Alexander* Water: It is alſo a ſecret, ſure and ſafe Remedy in the Gout.

CHAP. XCIX.

To tranſmute Jupiter *into* Luna.

I. TAke *Jupiter*, melt it, and quench it in the Water of Eggſhels, and it will loſe its crackling and eaſineſs of melting.

II. Then take it, and amalgamate it with the like quantity of well waſhed Mercury.

III. Waſh the Amalgama with common Water and decrepitated Salt: and when the Jupiter rather than the Amalgama is clear or clean, put it into a Retort, and diſtil it with a ſtrong Fire, that the Mercury may be ſeparated from the Jupiter.

IV. Waſh your Mercury and cleanſe it, by preſſing it through Leather, and again amalgamate it with the Jupiter, and waſh the Amalgama as before, with Salt and Water.

V. Diſtil the Amalgama again with a ſtrong Fire: The Mercury waſh, and preſs through Leather, amalgamate it with Jupiter, and diſtil twelve times.

VI. At laſt mix half a part of Luna with it (the Mercury being ſeparated from it ;) then taſt that Mixture, and you will find your Luna much augmented.

VII. This is done by waſhing and diſtilling, and amalgamating with the Jupiter; for ſo is the Mercury fixed, and by its own Sulphur turned into Luna.

VIII. But if good Luna had been added to it at firſt, the Work would have been done ſooner and better; for the Luna will harden the Jupiter.

CHAP. C.

To make a white Elixir to tranſmute all Metals into Luna.

I. TAke Mercury, ſeven times ſublimed; diſſolve it in common *Aqua-fortis*; digeſt the Solution for ten days in *Balneo Mariæ*, and *in Balneo* diſtil it to dryneſs.

II. The matter being dry, ſublime it: and diſſolve a part of the matter by it ſelf, in a cold and moiſt place. The Solution digeſt for ten Days, then diſtil it, and repeat the diſtillation three times, which keep in a Glaſs cloſe ſtopped.

III. The other part of the Mercury ſublime ſo often in a Retort, till it be fixed in the bottom thereof.

IV. T

IV. To this fixed part joyn an equal part of the Spirit of Mercury, as it is prepared and diſtilled above, and in a Glaſs ſealed up, putrifie it *in Balneo* for fifteen days, till it grows white.

V. This white matter ſublime in Aſhes, into the Sulphur of Nature.

VI. This Sulphur diſſolve with two Parts of your Spirit before reſerved; digeſt the Solution *in Balneo* for ten Days.

VII. Then gently diſtil off the Spirit, and what remains in the bottom, is the Oyl of the Sulphur of Nature, which is to be fermented with an equal part of the Oyl of Luna, then digeſt till it be fixed, and is become perfectly white, in a Glaſs Matraſs well cloſed.

VIII. This being projected upon fuſed Luna in a Crucible, the Luna will become as brittle as Glaſs.

IX. One part of this Glaſs, will tinge a thouſand parts of Venus into true Luna.

X. The Oyl of Luna for this ſecret is thus to be prepared. Take of the firſt Luna in Leaves ℥iv. diſſolve it in *Aqua-fortis*, digeſt the Solution for a month *in Balneo*.

XI. This digeſted matter diſtil *per Balneum*, with a gentle heat: And to the liquid matter remaining in the bottom, put rectified Spirit of Wine, ſo much as may over-top it about four Inches.

XII. This matter digeſt *in Balneo* ten Days, then diſtil off the Spirit of Wine.

XIII. The remaining matter at bottom, digeſt *in Balneo* for one hundred and fifty Days, till it putrifies and grows white.

XIV. This white matter ſublime, then diſſolve it in Alcholiſate Spirit of Wine, and digeſt it *in Balneo* for ten Days; after which abſtract the Spirit, and that which remains in the bottom is the Oyl of Luna and the Ferment of the white Stone.

XV. If this Oyl be filtred and diſſolved in the Spirit of Mercury, it will at laſt become a true Stone, and of admirable vertues, as is before declared.

XVI. After the ſame manner may you work with Sol, to make the red Elixir, which will tranſmute all other Metals into fine Sol.

CHAP. CI.

To make a red Tincture of Mars *for* Sol.

I. DIſſolve Iron in our diſſolving Water, and digeſt the ſolution *in Balneo* for ten days.

II. Then draw off the *Aqua-fortis* in a gentle heat: the matter remaining in the bottom diſſolve in Spirit of Vinegar, digeſt it ten days, and then diſtil off the Vinegar.

III. Diſſolve it again in freſh Spirit of Vinegar, and digeſt it for ten days *in Balneo* and then diſtil off the Spirit *ut ſupra*.

IV. To the matter remaining in the bottom affuſe Spirit of Wine, ſo much as may cover it ſix inches over, and digeſt the matter *in Balneo* for ten days.

V. Abſtract the Spirit of Wine by diſtillation, and the red tincture of *Mars* remaining in the bottom diſtil till it aſcends by the Alembick, which rectify three or four times, or till it be moſt pure.

VI. Then from its Earth draw a Salt, which purify by many ſolutions and calcinations, and then joyn it with an equal weight of its Tincture, or red rectifyed Oil.

VII. Digeſt theſe together till they are fixed into a Rubine, which ferment with *Oleum Solis*, whoſe preparation we have taught in ſeveral places before going.

VIII. The matter being all fixed, caſt one part upon three parts of melted *Sol*; and then upon a thouſand weight of Luna, or any other Metal, and all will be good *Sol*.

IX. But farther, if this matter be joyned with the volatile Tincture of Mars, and diſſolved, and then again fixed, its virtue in tranſmuting of imperfect Metals, will be thereby very much increaſed, almoſt *ad infinitum*.

X. And if that one part thereof be projected upon (100000) an hundred thouſand parts of any imperfect Metal, it will be all tranſmuted into good Sol.

XI. And if this Medicine be caſt upon Sol, it will be tranſmuted into a Medicine of equal virtue to the former.

CHAP.

CHAP. CII.

To make an Elixir *and Medicine of* Jupiter *for the white Work.*

I. TAke Mercury of Tin, half a pound; diſſolve it in common *Aqua-fortis*, and digeſt it *in Balneo* for ten days.

II. Then diſtil off the *Aqua-fortis* to dryneſs, and repeat this work three times, *viz.* diſſolving that which remains in the bottom, with new *Aqua-fortis*, and digeſt ten days, and diſtilling off the *Aqua-fortis* to dryneſs.

III. Repeat the ſolution again with freſh *Aqua-fortis*; digeſt *ut ſupra*, and then draw off the Spirit in Aſhes.

IV. Put what remains in the bottom into a ſtrong Glaſs Matraſs well luted, and ſublime it with a ſtrong fire for ſix hours.

V. What ſublimes, mix with freſh Mercury, drawn from Jupiter as aforeſaid, incorporate them together, and make an Amalgama.

VI. This Amalgama waſh well, and filter it with clear Oil, ſo that the Mercury may not appear to run.

VII. But a Pouder being made of both Mercuries with Aſhes, let it be ſublimed for ſix hours; and to this matter add an Amalgama of Luna with the Mercury of Jupiter, and ſublime till all remain fixed in the bottom of the Veſſel, and melts like Wax.

VIII. And this is done, by adding new Mercury of Jupiter ſublimed, and then diſſolve in *Aqua-fortis*, and again ſublimed; thus will it become fixed and flowing like Wax.

IX. This Medicine being projected upon Saturn, Jupiter, Venus or Mercury, converts them all into fine Luna; one part being projected upon an hundred of any imperfect Metal.

X. And if it be projected upon fine Luna, all the Luna will be turned into a Medicine of equal Virtue with the former.

CHAP. CIII.

A leſſer tincture for the white Work.

I. TAke common Salt diſſolved in *May*-dew, and ſo often coagulated, till it will melt in the fire like Wax; which that it may the ſooner be performed, every time you coagulate, melt it in the crucible, and ſo caſt it into the Water of *May*-dew.

II. Then it is to be filtred, and this is to be ſo often done, till it will melt like Wax as aforeſaid.

III. Take of this matter, ℥xix. of pure white Salt drawn from Egg-ſhells ℥xix. Mercury ſeven times ſublimed and dulcified, ℥xx. pure white Salt of Vitriol ℥xviii. mix all well together.

IV. Then put them into a ſtrong Glaſs Matraſs well luted, and ſublime them with a ſtrong fire four or ſeven times.

V. To this matter add of ſublimed and fixt Arſenick, ℥xviii. of calcined Luna ℥xix. of ſublimed and fixed Sal-Armonick ℥xviii. mix them.

VI. Then ſublime them, and repeat the ſublimations upon the fæces, till the whole matter be fixed, and nothing more will aſcend.

VII. Then diſſolve this whole matter in a cold and moiſt place, letting it run *per deliquium*; filter, purify, and coagulate the Solution.

VIII. This Coagulum diſſolve in *May*-dew, till all be converted into a fixed Oil.

IX. One part of this Oil projected upon an hundred parts of fuſed Venus, will tranſmute it all into fine Luna.

X. Theſe Salts thus prepared and made fuſible, receive their chiefeſt Tincture from the Arſenick, Mercury, and Luna, which are all diſſolved with theſe Salts and by Art prepared, and converted into a white fixed Oil.

XI. This Oil wonderfully tingeth, and by tinging doth fix; for it has in it ſelf fixedneſs, and permanency in the fire.

CHAP.

CHAP. CIV.

Of the Physical Stone made of Dew.

I. TAke a great quantity of *April*, or *May*-dew, and distil it with a gentle heat, till it becomes somewhat thick in the bottom of the Alembick.

II. Put into this Water a quantity of the Loadstone, and from the same with a very strong fire, in a Retort, draw forth an acid or sharp Spirit, which rectify seven times and reserve it.

III. The Loadstone calcine with a strong fire in a strong Crucible for three hours, and extract a most profitable Salt, with the flegm of the Dew, before distilled, by boiling the Loadstone in the said flegm.

IV. Filter the flegm and distil it in an Alembick, in the bottom of which you shall find a most pure white Salt.

V. This Salt calcine in a Crucible with a strong fire, three or four hours; and then dissolve it in the Spirit of *May*-dew, before prepared.

VI. This solution filter and distil with a very gentle heat, and that which remains in the bottom, dissolve, and filtrate, so long till it emits no fæces in dissolution, and remains in the bottom of the Alembick, in the form of a most pure white Oil.

VII. Sublime or cause this Oil to ascend with a very strong fire into the Sulphur of nature: This Sulphur dissolve in the Acid Spirit above prepared and reserved.

VIII. This Solution purify, and dry or evaporate it by distillation; and again dissolve it and evaporate it by distillation; and this so often repeat till your Sulphur is dissolved into a volatile Water, and ascends by the Alembick with the acid Spirit.

IX. And thus is this acid Spirit made the true Vinegar of the Chymists, most sharp, and dissolving all things.

X. Take of this most sharp Vinegar, twenty eight drachms: of the finest and best Sol, seventeen drachms: dissolve the Sol in the said Vinegar.

XI. Digest

XI. Digeſt this ſolution in a Matraſs well ſtopt for a month, then put it upon an Alembick and diſtil it to dryneſs.

XII. What diſtils, cohobate upon the matter remaining in the bottom, and repeat this work ſo often, till it is all converted into a red fixed Oyl in the bottom of the Matraſs or diſtillatory.

XIII. Separate the flegm or inſipid drops of Water, which came over firſt in the diſtillation of our Vinegar; and put that only upon the remaining matter which is ſharp or acid, till it is all fixed into a red fixed Oil.

XIV. One part of this will turn a thouſand parts of any imperfect Metal into pure Sol: and if it be projected upon an equal weight of fine Sol, it will convert it all into a Medicine of the ſame Virtue and property.

XV. And if you diſſolve this Medicine with new and freſh acid Spirit, and digeſt it again in a well ſtopt Matraſs, till all is turned into a red fixed Oil, your Medicine will be multiplied both in quantity and Virtue.

CHAP. CV.

To fix Mercury.

I. TAke Mercury dulcified and often ſublimed eight drachms: Salt-peter depurated and freed from all its common Salt, as much: mix them together.

II. Sublime them in a ſtrong Matraſs, with a very ſtrong fire: then ſublime without the fæces which are left in the bottom of the Glaſs.

III. And ſo long ſublime, till it is fixed in the bottom; ſo have you a fuſible, fixing, and tinging Mercury; of which one part will go upon an hundred parts of melted Venus.

IV. And if this fixed Oil of Mercury, be joyned with the fixed Oil of Luna, it will tinge the more powerfully, and its virtues will be multiplyed.

V. And if this fixed Oil be diſſolved in our ſtrong Vinegar, prepared in the former Chapter, it will be all converted

converted into a Spiritous Water, which will penetrate and diſſolve all things.

VI. And herewith are performed ſtrange and ſtupendious ſecrets, with Sol, Luna, and precious Stones, in order to Mans health, as alſo for making Glaſs malleable, and turning it into precious ſtones.

CHAP. CVI.

To congeal Mercury *into* Luna.

I. TAke Auripigmentum, half a pound: Mercury Sublimate as much; mix them, and grind them till they become a moſt fine pouder.

II. Put it into a Retort, and diſtil (according to Art) in Aſhes a gummoſe liquor, which rectify ſeven times.

III. Then take well waſhed Mercury four ounces, which amalgamate with filings or leaves of the moſt pure Luna: waſh the Amalgama with Salt and Spirit of Vinegar till it be white and pure.

IV. Imbibe this Amalgama in the former liquor, and digeſt in a Matraſs covered with *Lutum Sapientiæ* cloſe ſtopt in a ſtrong fire, for four days, and increaſe the fire for eleven Hours.

V. At laſt melt it in a Crucible, and it will be moſt fine Luna.

VI. And if you add a little Calx of Tin well calcined and well waſhed, it will be better, and you will find in the fuſion a greater quantity of Luna.

CHAP. CVII.

To extract the Mercury *of* Antimony.

I. TAke flowers of Antimony made *per ſe* in an earthen Veſſel, as much as you pleaſe; and add thereto pure Salt of Tartar in very fine Pouder, Quick-lime, and

and Sal-Armoniack, of each as much as of the flowers of Antimony.

II. To these add of the best Spirit of Wine a sufficient quantity; and in a Glass Matrass well stopt, digest them for a month in warm Horse-dung, or *in Balneo.*

III. Then distil, and at the end of the distillation, you will find a running Mercury of Antimony in the bottom of the Receiver.

CHAP. CVIII.

To convert Lead into Mercury.

I. TAke of the best Salt of Borax three ounces: Salt of Lead three ounces: Oil of Tartar three ounces: filings of Lead four ounces: Sal-Armoniack three ounces: The best Spirit of Wine six ounces; mix them well together.

II. Put them into a Glass Matrass, stop it well, and digest *in Balneo* for a month; then distil, and a running Mercury will be drawn from the Lead.

III. This Mercury you may easily fix into Luna with *Oleum Lunæ*; and into Sol, with *Oleum Solis*; the manner and way of doing which, you may collect out of some of the aforegoing Chapters.

CHAP. CIX.

A tincture of Sol *for the transmutation of* Luna.

I. TAke of the mineral of Sol, (which has not yet past the fire) one pound, beat it into bits, or into a gross pouder, and put it into a well luted Retort.

II. Distil with a strong fire, and what comes over keep in the Recipient close stopt.

III. What

III. What remains in the Retort, expoſe (whilſt it is yet hot) to the cold Air for a Night; and in the morning put it into the Retort again, and diſtil it as before into the ſame Recipient.

IV. What remains in the bottom of the Retort, expoſe again (whilſt it is yet hot) to the cold Air for a whole night; the next morning put it into the Retort again and diſtil it.

V. This work repeat ſo often till you have a very great quantity of Water.

VI. Then take your Mineral which remains in the bottom of the Retort, and diſſolve it in a ſtrong *Aqua-fortis.*

VII. Purify the Solution, and digeſt it for a whole month in *Balneo Mariæ.*

VIII. Then diſtil to dryneſs, and cohobate the Water diſtilled off upon the fæces till it grows ſweet.

IX. After which, diſſolve the matter remaining in the bottom, with the above reſerved Water (in the receiver well ſtopped) drawn from the mineral expoſed to the cold Air.

X. Being diſſolved, filter and purify the Solution; putrifie it for a month in *Balneo*, then diſtil to dryneſs: cohobate, and diſtil again, until your matter aſcends the Alembick in a wonderful Salt.

XI. This Salt diſſolve, and diſtil till it is converted into an Acid Water, which rectify, and free it from all its inſipid flegm.

XII. Then in this moſt ſtrong rectified Vinegar, diſſolve Sol calcined with Salt and Mercury: all being well diſſolved, purify the Solution and digeſt it (abſtracting the flegm if any be) until the matter by a conſtant digeſtion is converted into a red and and fixed Oil.

XIII. This Oil (as the other above prepared red Oils) may be multiplyed, and its Virtue and Power extended in like manner.

XIV. One part thereof will project upon a thouſand parts of any imperfect Metal, and tranſmute it into moſt fine Sol, without compariſon.

CHAP.

CHAP. CX.

A tincture of Luna *for other* Metals.

I. TAke of the mineral of Luna in groſs Pouder two pounds: Mercury ſeven times ſublimed half a pound: mix them together, and in *Balneo Mariæ* putrify them for a month.

II. Then diſtil into a Recipient well joyned or luted to the neck of the Retort: what comes over into the Receiver, keep therein well ſtopped.

III. The matter remaining in the Retort expoſe while it is yet hot, to the cold Air for a night: break the Retort, and if any thing be ſublimed into the neck thereof, bruiſe and grind it, and mix it again with the matter.

IV. Then diſtil it as before, and keep the liquor that comes over into the Recipient, with the other cloſe ſtopt; and expoſe the matter whilſt yet hot to the cold Air for a night *ut ſupra*.

V. What ſublimes or aſcends, if any be, mix with the remaining matter, and again diſtil in a new Retort.

VI. This work ſo often repeat, till you have a very great quantity of Acid Water, which rectify, and ſeparate from its flegm.

VII. Then diſſolve of the matter remaining in the Retort four ounces; in a ſufficient quantity of *Aqua-fortis*: you are not to diſſolve all your matter, becauſe it will be too much; four ounces will be enough.

VIII. Digeſt the Solution *in Balneo* for a month, then diſtil and dry it: and this work ſo often repeat, till your diſſolved matter is converted into an Oil.

IX. Diſſolve this Oil in the Acid Water above reſerved in the recipient: then diſtil it to dryneſs, and ſo often repeat the diſtillation, till all the Oil aſcends with the Acid Water, and the whole becomes one Acid.

X. Rectify the Acid liquor ſeven times; and therein diſſolve a fit quantity of Luna, and repeat the Solution and Diſtillation, till it be all turned into a fixed Oil very clear.

XI. This

XI. This Oil converts all imperfect Metals into fine Luna.

XII. And if you diſſolve it again in the above reſerved Acid Water, and according to art digeſt it into a fixed Oil of Luna, one part will go upon ten thouſand Parts of any imperfect Metal.

XIII. And being projected upon Luna, it converts it into a Medicine of the ſame virtue and property.

CHAP. CXI.

To make a red Oil of Vitriol, a ſecret in the cure of all Diſeaſes.

I. TAke Salt of Vitriol a pound: make it red by manifold Calcinations and Solutions, ſo often iterated, till it becomes to the higheſt redneſs,

II. Diſſolve it in the beſt rectified Spirit of Wine three pounds; and digeſt the Solution in *Balneo Mariæ* for a month.

III. Diſtil it in a Retort, with a ſtrong fire; cohobate the Spirit upon the red Salt, and ſo often repeat the Cohobation, till with the Spirit of Wine, a red Oil aſcends; or the Spirit is tinged with a red Tincture from the Salt of Vitriol.

IV. Diſtil this tinged Spirit *in Balneo Mariæ*, with a gentle heat, and the red Tincture will remain in the bottom.

V. The Spirit of Wine thus denudated of its Tincture, put upon the Salt of Vitriol again, that it may be again tinged.

VI. Repeat this till your Salt of Vitriol is all come over with the Spirit of Wine, or converted into a Volatile Tincture.

VII. This Tincture ſeparate alſo from the Spirit of Wine, and rectifie it three or four times by a Retort in Aſhes.

VIII. In this rectified Tincture diſſolve the Calx of Sol; ſo will it become fixed by means thereof, and both converted into an Oil.

IX. This

IX. This being by art made volatile, and then fixed again, becomes a very great medicine curing all Diseases; and purifying or purging the leprosy of all Metals.

X. One grain of it is sufficient for the prolongation and conservation of human life for many years; and for curing of any disease.

XI. One grain also is enough to transmute a pound of Saturn, Jupiter, Mercury or Luna into the most fine Sol.

CHAP. CXII.

To extract a red Tincture from Arsenick.

I, TAke Crystal Arsenick half a pound: Pouder it very fine, and dissolve it in common *Aqua-fortis* seven times distilled and rectified.

II. Filter and purify the Solution, and digest it in *Balneo* for fifteen days, then distil to dryness.

III. Dissolve again in the self same Water that came over, cohobate upon the fæces, dissolve, clarify, filter, and distil: and do thus so often, till it dissolves without any fæces, and the solution becomes of a red colour, with a white Salt settling at bottom.

IV. Separate this Salt, and keep it for the white Tincture, to project for the white.

V. Now take only the Solution, and put to it a fourth part of Sol: but let the Sol be first dissolved in *Aqua Regia*.

VI. Then joyn the Solutions, and digest them, in *Balneo Mariæ* for a month, and then distil to dryness.

VII. Cohobate, or again put back the Water to the fæces and again dissolve, purify and filter the Solution, and distil to dryness.

VIII. Dissolve again, and repeat this work, till it emits no fæces, but your matter is converted into a most rubicund Oil.

IX. This Oil circulate in a Glass Matrass with a long neck well stop'd, till the Oil is so fixed, as that it will not in the least ascend.

X. Take

X. Take of this Oil one penny weight, and project it upon fine Luna one pound, fuſed in a Crucible, and it will tranſmute it all into the moſt pure Sol.

CHAP. CXIII.

The concluſion of this eighth Book.

I. I *Peter John Faber* here publiſh theſe *Arcana* for the production of Sol and Luna, and dedicate them to the Sons of Philoſophy, not as having been all experienced by me, but as they are agreeable to reaſon, the principles of Alchymy and true fundamentals of Art. I am unwilling to draw you into expences, or cauſe you to exhauſt your Treaſure, conſume or loſe your time: my deſign is that you may reap Fruit by our Inſtructions.

II. For this purpoſe it is neceſſary that we convert Metals whether pure or impure into a pure Salt: for it is only profitable to us that by a Metallick Sulphur we tinge the ſaline parts of Metals: to which purpoſe the *Arcana* in this preſent work wholly tend: teaching how Metals and Minerals may be converted into a pure ſaline and fuſible ſubſtance.

III. Thus proceeding in this Art of Alchymy, you will not blame but praiſe me, for that I adviſe you not to things vain, but ſuch as are advantageous and profitable: This is the ſecret in Alchymy as I have ſaid, to convert Metals into a fuſible Salt: to volatize this Salt with the Spirit that turned the Metal into ſuch a Salt; to make the volatile fixt, and the fixt volatile again; and this again fixt, till the Royal Sulphur is able to digeſt and tinge the Imperfect Metals into Sol and Luna.

IV. This is done by Diſſolution and Coagulation: This is the Sum and accompliſhment of the whole Art; there is nothing more true in this learning; God himſelf is witneſs. By the *Arcana* here laid down, you may ſee how fruitful Alchymy is in the production of Sol and Luna: but this you will never compleatly perceive, unleſs you underſtand the *humidum Radicale* or Mercury

of Metals; and how to free and depurate it, from its impurity and fæces.

V. For the tranſmutation of Metals conſiſts only in the pure and fixed Metallick Mercury or *radical moiſture*, educed by patience and conſtancy in operating; for they require a long time to be brought to a laudable and deſired end: Art is long and tedious, and requires a patient, learned, expert, and conſtant Operator. Chymical fruits are not ſuddenly brought to maturity, but by length of time, and a previous and continual digeſtion, therefore is patience and conſtancy ſo requiſite.

VI. Chymiſtry imitates Nature, and is tedious in digeſting and perfecting of Metals. The very Fruits of Vegetables call for a Years digeſtion; much more will the incorruptible Fruits of Minerals and Metals exact a longer time to accompliſh their maturity and perfection: for the Metallick ſubſtance or Sulphur cannot be perfectly and abſolutely united with its Mercury or Radical Juice, but by length of time, and a previous digeſtion.

VII. The perfection of all Metals conſiſts in the well depurating of their Metallick juice or moiſture; and ſo abſolute a union between them, that the ſtrength of fire ſhall not be able to ſeparate them. Therefore think not much of the time you imploy in depurating and digeſting of this Mercury, or *Radical moiſture*, or Juice of Metals in theſe our preceeding *Arcana*.

VIII. For thereby it is manifeſt that the Metallick juice or moiſture is freed from its Elementary fæculencies, and by digeſtion perfectly united and joyned together. The truth of theſe things I doubt not of in the leaſt, although I have not actually experienced them all, becauſe they are clear by the principles of Art and Nature, the latter of which will not deceive you, if you act according to her Method.

IX. I have experienced ſome of theſe ſecrets to be true; wherefore I believe the reſt to be ſo too: and I doubt not but you will find them moſt faithfully laid down, if you exactly adhere to, and follow what is written, having patience in digeſting, uniting, and fixing, according to the tenor of the Arcanum you pretend to follow.

X. And

X. And if they require a longer time than I have prescribed, be not backwards to give it, till you compleat what you seek for: and although the depuration and digestion be very tedious, yet this encouragement you have, never to be frustrated of the perfection you seek after. Love and wish me well; and so Farewel.

Explicit Liber Octavus.

POLYGRAPHICES

LIBER NONUS.

Of Chiromantical Signatures.

CHAP. I.

A Rational Demonſtration of Chiromantical Signatures.

I. THE Foundation of Chiromancy depends upon the true Appropriation of the ſeveral Mounts, Fingers, or Places in the Hand, to their proper Stars or Planets.

II. The Ancients have aſſigned the Root of the middle Finger to *Saturn*; of the fore Finger to *Jupiter*; of the Hollow of the Hand to *Mars*; the Root of the Ring Finger to *Sol*; of the Thumb to *Venus*; of the little Finger to *Mercury*; and laſtly, the Brawn of the Hand, near the Wriſt, to *Luna*.

III. That Line which comes round the Ball of the Thumb, towards the Root or Mount of *Jupiter*, is called *Linea Jovialis*, or the Life Line; that from the Wriſt to the Root or Mount of *Saturn*, *Linea Saturnialis*; but if it points to the Root or Mount of *Sol*, *Linea Solaris*, if to *Mercury*, *Linea Mercurialis*: that which goes from *Linea Jovialis* to the Mount of *Luna*, *Linea Lunaris*, *Epatica*, or the Natural Line.

IV. The other great Line above it is called *Linea Stellata*, or the Line of Fortune, alſo *Menſalis*, the Menſal or Table Line, becauſe it limits the Mounts of the Planets, and is impreſſed with various Virtues in thoſe places, according

cording to the Nature of the Planet, whoſe Mount it runs under, or ſets a boundary unto: Laſtly, The ſpace between the Natural Line and the Line of Fortune, is called *Menſa*, the Table.

V. All other Lines ſhall either proceed out of the ſides of the former, or elſe from ſome proper Mount.

VI. Every Line, great or ſmall, long or ſhort, hath a certain Beginning or Root, from which it riſes; and a certain End or Point to which it tends.

VII. The diſtance between both ends, is the way of its Paſſage; in which way it either croſſes ſome other Line, or elſe is croſſed; if it do neither, its Signification is continual, and ought ſo much the more to be taken notice of.

VIII. Every Mount hath a proper Signification, which it receives from the Significations of its proper Planet, being abſtractly conſidered: the ſame underſtand of all the principal Lines aforeſaid.

IX. *Saturn* is the Author of Old Age, Inheritances, Melancholy, Malice, Sorrow, Miſery, Calamities, Enemies, Impriſonments, Sickneſs, Diſeaſes, Perplexities, Cares, Poverty, Croſſes, Death, and whatſoever Evil can befal Humane Life: he ſignifies Fathers, Old Men, Labourers, Dyers, Smiths and Jeſuits.

X. *He alſo ſignifies one Auſtere and Satyrical, with a Head declining, Eyes fixed upon the Earth, hanging Lips and a ſullen Countenance, waſting himſelf with a furious Silence.*

XI. *He gives a Complexion or Colour between Black and Yellow, Meager, Diſtorted, of an hard Skin, eminent Veins, ſmall Eyes, Eye-brows almoſt joined together, a thin Beard, thick Lips, caſt-down Looks, an heavy Gate, and ſtumbling as he goes.*

XII. *He ſignifies Envy, and envious Men, a Way-layer or Padder upon the High-way. But where he is well placed, he ſignifies one Subtil, Wiſe or Crafty, Intelligent, Ingenious, one of profound Thoughts, given up to ſecret Contemplations, a Preſerver or Keeper of hidden Things, and a Finder out of Things that are loſt.*

XIII. *Jupiter* is the Author of Health, Strength, Moderation, Sobriety, Mercy, Riches, Subſtance, Goodneſs, Liberty, Religion, Honeſty, Juſtice, Modeſty, and all other things which may make a Man happy; he ſignifies Churches, Church-men, Lawyers, Scholars, Clothiers, and the like.

XIV. *He ſignifies one good natured, fortunate, ſweet, pleaſant, a well Wiſher; one honeſt, neat, of good Parentage, and honourable. He gives Chearfulneſs, right Judgment, Truth, Heavenly Wiſdom, Underſtanding, and is the Beſtower of Riches, Goodneſs and Virtue. He denotes one merry, ingenious, fair, honourable, hoſpitable, kind, and every ways good.*

XV. *He prefigures a Man of a Sanguine Complexion, between White and Red, of a delicate Body, good Stature, high Fore-head, and a Head lifted up, Eyes ſomewhat big, ſhort Noſtrils, large Teeth, a light coloured Beard, a tall compleat Body, honeſt, juſt and fair Conditioned.*

XVI. *Mars* is the Author of Strife, Contention, Pride, Preſumption, Tyranny, Thefts, Murders, Victory, Conqueſt, Infortunacy, Boldneſs and Dangers: he ſignifies Phyſicians, Chirurgeons, Apothecaries, the Camp, all Military Men and Preferments, edge Tools, Butchers, Carpenters, Gunners, Bailiffs, and the like.

XVII. *He is the Author of War, Fighting, Blood and Strife; and ſignifies one ſtrong, bold, quarrelſom, inſolent, a Traytor, or a Subverter and Overturner of States and Kingdoms. He gives Power and Might, Heat and Burning; and ſignifies Violence, Contention, Impudence, and all diſordered, inconſiderate and heady Actions.*

XVIII. *His Countenance is terrible, cruel, fierce, angry, proud, haſty and imperious. He gives a red Complexion, deep yellow or black Hair, round Viſage, fiery Eyes, and a ſavage revengeful Look: well placed, he ſignifies Chirurgeons, Captains, Commanders, and Great Men under Military Diſcipline.*

XIX. *Sol* is the Author of Honour, Glory, Renown, Preferment, Life, Generoſity, Magnanimity, Soveraignty, Dominion, Power, Treaſures, Gold, Silver, and whatſoever may make the Life of Man ſplendid: he ſignifies Kings, Princes, Rulers, and all Men in Power, Minters, Gold-ſmiths, long Life and Wiſdom.

XX. *He ſignifies one of a noble and generous Nature, fortunate, honeſt, neat, prudent, intelligent, wiſe; the Governor and Beſtower of Life and Beawty, and the Diſpeller of Evil; whence the* Greeks *ſometimes called him* Ἀλεξίκακον *and* Phœbus.

XXI. *The* Hebrews *call him* שמש Shemeſh, *from miniſtring or Serving, he being the chief Miniſter and Servant of*

of the whole World; and the Arabians שמם Shames.

XXII. *He gives Courage, Honour and Majesty, a Man considerate, wise and prudent, one of a middle Stature, comly Personage, curled Hair and brownish, of a red or sanguine Complexion, trusty and magnanimous; but being ill placed, Vain-glorious and a Tyrant.*

XXIII. *Venus* is the Author of Joy, Pleasure, Mirth, Solace, Lust, Uncleanness and Idleness: she signifies Women-kind, Sisters, Ladies, Whores, Curiosities, Lapidaries, Silk-men, Taylors, Mercers, Upholsterers, Pictures, Picture-drawers, the Pox, and Diseases proceeding from Uncleanness.

XXIV. *She signifies one mild of Disposition, fair, beautiful, pleasant and merry, given to Mirth and Jollity, and the Author of Fruitfulness. She foreshews Joy, Friendship, Mercy, Bounty, Love, Sports, Dalliance, Dancing, Embracing, Kissing, and such like. Being hot and moist, she is the Mistress of Generation, makes an aimable, pleasant and chearful Countenance, prettily mixed with Red.*

XXV. *She gives a compleat Body, enclining to Tallness, fair and round Visaged, with beautiful rowling Eyes, brown or flaxen coloured Hair, of a lovely Disposition, gentle, bountiful, courteous, affable and merciful: being ill placed or disposed, she signifies Whores, Strumpets, Bawds, Pimps, Panders, Thieves, and such like.*

XXVI. *Mercury* is the Author of Craft, Subtilty, Policy, Deceit, Perjury, Study, Hearing and Merchandizing; he signifies Merchants, Clerks, Scholars, Secretaries, Ambassadors, Pages, Messengers, Poets, Orators, Stationers, Cheaters, Thieves, petty Lawyers, Philosophers, Mathematicians, Astrologers.

XXVII. *He signifies one swift, nimble, eloquent, industrious, wise, rational, a diver into abstruse Mysteries, Good with the Good, Bad with the Bad, Male with the Male, and Female with the Female, an Interpreter or Expounder of the Mysteries of Nature; one mutable, changeable or inconstant, lively, prompt, and of a ready Wit.*

XXVIII. *He gives a Complexion neither very white nor very black, a long Visage, an high Forehead, small Eyes, Brown or almost Black, an even Nose and something long, thin Beard, long and slender Fingers, one busy, subtil, witty, sharp and wary. Being ill placed or disposed, he signifies*

Thieves, cheating Sollicitors, knaviſh Lawyers, Knights of the Poſt, Witches, Wizards, Diviners, &c.

XXIX. *Luna* is the Author of popular Fame, both Good and Evil, Joy and Sorrow, Mutability and Inconſtancy, Affection and Diſaffection, Moiſture, and every Effect which may be ſaid to be common: ſhe ſignifies Waters, Ships, Seamen of all ſorts, Queens, Ladies, a Governeſs, the common People in general, Neighbours, Mothers, Kindred, Fiſhmongers, Vintners, Tapſters, Midwives, Nurſes and Travellers.

XXX. *She is the Tranſlator of Light from one Planet to another, imparting her Light to all the other Stars, and comprehending or receiving their Virtues and Powers. She gives Cold and Moiſture, feminine Honour and Glory, Chaſtity, Pitty, Mercy, and the Subduer of Carnal Affections, taking care of all States and Conditions of Men, both by Sea and Land.*

XXXI. *Her Influence is over Tempeſts and Storms at Sea, over the Birds of the Air, and the Beaſts of the Field, over Serpents at Land, and Fiſhes in the Water, making things to ebb and flow, according to her decreaſe or encreaſe.*

XXXII. *She ſhews one moveable, benigne, innocent, ſimple, chaſte and curious; gives a pale Countenance, middle Stature, round Viſage, and either black, brown or grey Eyes, according as ſhe is Aſpected, and the Sign ſhe is in, tender Body, Fleſhy, and of a ſoft and ſmooth Skin; one that is facil or eaſy to be entreated, an Affecter of News and new Things, inconſtant,* &c. *Being ill placed or diſpoſed, ſhe ſignifies one Beetle-browed, Ill-natured, and a Scold.*

This being known, underſtand,

XXXIII. *Firſt,* That the Lines take their Signification from the Mount of that Planet from whence they riſe.

XXXIV. *Secondly,* That the place from whence any Line riſes, ſhews the Ground, Cauſe or Original of the things ſignified by that Line; the Line or Mount to which it points, ſhews the Iſſue to what the thing tends, and what may be the end of the Matter ſignified.

XXXV. *Thirdly,* That whether the Line ſignifies Good or Evil, if it be cut or croſſed by any other Line, that Line ſo cutting it will at a certain time not only abate the Good, but alſo take away the Evil, if it is ſo ſignified.

XXXVI. *Fourthly,* That the Nature and Quality of that Line thus deſtroying the Signification of the former,

is

is known by considering from what place it rises, and to what place it tends.

XXXVII. *Fifthly*, That a double Judgment arises from every Line, by accounting it, first, from the one end; secondly, from the other.

XXXVIII. *Sixthly*, That little Lines rising out of the sides of any other Line, both augment the things signified by that Line, and also signify new matter arising by things signified by the Line from whence they rise; and the place to which they point, shew to what they tend.

XXXIX. *Seventhly*, That the Mounts or Lines adorned with Stars, or small Lines not crossed, or pointing to evil places, shew great Good and Happiness to the Person, by things signified by the same Mount or Line: and on the contrary vitiated with crosses, spots or knots, shew much Evil and Perplexity.

XL. *Lastly*, The beginning of the Lines, shew in the beginning or fore part of Life; the middle, in the middle part of Life; and the ends of them, the latter part, or end of Life: so that if any Evil or Good be signified by any Line, you must hint the time according to the aforesaid Reason.

XLI. From these Rules (being observed) you may attain to the Knowledge of the Natures, Qualities and Dispositions of all sorts of People, their Affections and Passions, answerable to the Virtues and Influences of the Stars and Planets, which the ancient Mathematicians and Astrologers have, by long Experience, taken notice of, and observed, as does sufficiently appear by their Works.

XLII. *'Tis true, here we ought to enquire into the denominated times when the things signified should come to pass; but because that Matter is something long and abstruse, (being more fit to be handled in a particular Tract, wherein all its Curiosities may be examined) this our present Work being a Subject of another nature, and these things not essential to our purpose, we shall at this time say little of it here.*

XLIII. *Notwithstanding, although we have not here delineated every thing in particular, yet we have laid (as it were) the Ground and Foundation of the Art; out of which, as out of a Fountain, the industrious Student may, at his own Leisure and Pleasure, rear a stately Fabrick. Be pleased to view the second Figure of the Hand, in which the Numbers*

signify

signify Years: therein you may partly see the Geometrical Reason of that measure of time.

CHAP. II.

Whether Right or Left Hand is to be Judged by.

I. IF it is demanded which of the Hands is to be chosen to make a Judgment by, it is generally answered by Artists, The Left Hand, tho' you may make your Views and Observations on both; for that in the one the length of Life is best known, and in the other Riches and Honour.

II. However, you are also to consider, whether the Person is Right or Left Handed; if Right-handed, the Left is chiefly to be chosen: but if Left-handed, then the Right, because the Hand that is most in Use, has generally fewest Lines, they many times being worn out, altered or obscured by much using.

III. But however, you are to consider both the Hands, and see which Hand has most or greatest number of Lines upon it; which are fairest, largest and deepest; and which are either continued very long, or cut short, or divided into considerable breaches by other eminent Lines; and to chuse that Hand to make the chiefest of your Judgment from.

IV. However, they will have the Left Hand to be that in which the Chiromancer ought to lay the Foundation of his Predictions, as being nearest to, and reaching the Heart, also governed by *Sol*, and dedicated to *Jupiter*.

V. By this Hand (says *Avicenna*) and the Thumb, the Physician should know the State of his Patient, all the Veins, Arteries and Lines of this Hand and Arm, going to the most noble parts of the Body, particularly to the Heart, which is the Seat of all Desires, Affections and Lusts; and whence proceed also all the Conceptions of our Actions.

VI. Wherefore (say they) the Artist must by all means draw his Judgments from this Hand, which he must

muſt earneſtly view, and obſerve the Diſpoſition of the Lines, their Poſition, Colours and Accidents; tho' he may withal look on the Right Hand, and eſpecially the Wriſt, which is the place of Years, whence may be known the length of Life, and the Diſeaſes which may happen to the Perſon.

VII. Take into Conſideration alſo, the Temper and Conſtitution of the Body, that it be not wearied at the time when you make your Obſervation of the Lines; for Action thro' Heat, draws the Blood from the Centre to the Circumference and extream Parts, and ſo by Extenuation the natural Heat is exhauſted.

VIII. Be cautious alſo of the callous or brawny Condition of the Hand, made ſo by Labour, or otherwiſe; for this clouds the Lines, and makes them not ſo perceptible.

IX. You are not to obſerve the Hands of Children under four or ſix Years of Age; for in thoſe tender Years, the Subſtance of the Body is too fluid and ſoft, uncertain, and apt to receive divers and various Forms and Lines, by reaſon the Conſtitution and Temperament is very much ſubject to alter.

X. Nor make your Obſervations and Judgment at any time when the Body is Faſting, nor yet when it abounds with Gluttony and Drunkenneſs, or is overtoiled with Labour, Thoughtfulneſs and Care.

XI. Judgment is not to be given when either the Perſon or the Artiſt is diſtempered thro' Fear, Anger, overmuch Joy, Sorrow or Grief, Wrath, Fury, Paſſions or Infirmities, or is affected with any acute Diſeaſe, as Fevers, *&c.* exceſs of *Venus*, &c. for in theſe Caſes the Body is alterable, and receives a falſe Impreſſion, which will much hurt your Judgment.

XII. *Laſtly*, It is to be obſerved, that in ſome People the one Hand has no Lines at all, except the Life Line and Table Line, and ſometimes no Life Line, but only a broken Table Line or Natural Line, whilſt the other Hand ſhall be full of very eminent, fair and large, and expreſſive Lines: in this Caſe, this other Hand, fulleſt of Lines, is to be taken, and Judgment to be made by it, whether it be the Right or the Left.

CHAP.

CHAP. III.

Of the Planetary Mounts.

I. THE Hand is divided into three Parts, *viz.* The *Wriſt*, the *Palm*, and the *Fingers*. The *Wriſt* is the lower part of the Hand, and is the place of the *Reſtricta*. The *Palm* is the hollow of the Hand, from the *Reſtricta* to the Fingers long ways; and from the Extremity of the other ſide of the Thumb, to the outſide of the little Finger, or Mount of *Luna*. The *Fingers* are five, attributed to five of the Planets, the Thumb or *Pollex* to *Venus*; the fore Finger or *Index* to *Jupiter*; the middle Finger or *Medius* to *Saturn*; the Ring Finger or *Annularis* to *Sol*; and the little Finger or *Auricularis* to *Mercury*.

II. Theſe Fingers, at their Baſes, have certain Mounts, which are attributed to the ſame Planets which the Fingers are.

III. The four Fingers have twelve Joynts, attributed to the twelve Signs of the *Zodiack*, viz. To the firſt, ſecond and third Joynts of the fore Finger, *Gemini*, *Taurus* and *Aries*; to the firſt, ſecond and third of the middle Finger, *Piſces*, *Aquarius* and *Capricorn*; to the firſt, ſecond and third of the Ring Finger, *Virgo*, *Leo* and *Cancer*; and to the firſt, ſecond and third of the little Finger, *Sagitary*, *Scorpio* and *Libra*: the firſt Joynt of each Finger is the Root which borders on the Mount of the ſame, and the third Joynt is the Extremity or End thereof.

IV. Every Mount denotes ſomething worthy of Conſideration; the Mount of *Venus*, is the Mount of Love; the Mount of *Jupiter*, Riches and Honour; the Mount of *Saturn*, Misfortunes; the Mount of *Sol*, Honour and Riches; the Mount of *Mercury*, Sciences, *viz.* Theſe are the places where thoſe particular things are to be enquired about.

V. In the middle of the Palm is the Triangle of *Mars*, which ſignifies Fury, and things Military; and towards the outſide of the Hand, under the Mount of *Mercury*, is the Mount of *Luna*, which ſhews the Affections of the Mind.

VI. Now,

VI. Now, according to the different Natures of Men and Women, ſuch are the various different Marks, Characters, Signatures and Impreſſions in their Hands, ſhewing their natural Inclinations, Diſpoſitions or Fates, whether they be good or evil.

VII. *Saturnian* Perſons have more of the Characters of *Saturn* on the Mount of *Saturn*, in their Hand, than any other Characters, eſpecially that large *Saturnian* Line ariſing from the Wriſt, and running thro' the Palm to the Mount of *Saturn*; which, when it is well coloured, fair and ſtrait, it denotes good Fortune.

VIII. The ſame, if the Character of *Jupiter*, Croſſes, Stars, parallel Lines, Scales, Branches, Triangles, Rhombus's be found either in the Finger, Mount or Line of *Saturn*, they foreſhew Friends, good Counſel, deep Cogitations, fair Buildings, delighting in Agriculture, loving long Journies, Riches, Proſperity and Succeſs in Trading, getting Money on all hands, one of few Words, Diſcreet, Prudent, and of long Life, even to old Age; yet with all this Proſperity, towards their latter days, they ſignify Palſies, neurotick Pains, and Ingratitude from ſuch to whom they have formerly been very kind.

IX. But if upon thoſe places of *Saturn* there be infortunate Signs, as Semi-circles, broken Lines, and imperfect like Grates or Gridirons, or like Hairs, or the Character of *Saturn*; or if the *Mons Saturni* is turbid, crooked, wrinkled or ill coloured, theſe things are Significations of one Proud, Self-will'd, Conceited, a Boaſter, Diſſembler, and unſociable, unworthy, ungrateful, plunged in manifold Labours and Troubles, under the Frowns and Anger of moſt People, attended with Poverty, and they uſually Die wretched and unlamented.

X. Jovial Perſons are known by the Plurality of Lines on the Mount of *Jupiter*, more of them and fairer on this Mount, than elſewhere, they ſignify one wiſe, judicious, faithful, religious, and an excellent Moraliſt, bold, confident in Dangers, merciful, tender-hearted, friendly, merry and chearful, loving Good and hating Evil, and likely to have many Children.

XI. If the good Characters mentioned at *Sect.* VIII. aforegoing, be on this Mount, they are of general Good, import and declare Prelacy and Preferment, Riches, Content and true Friendſhip, and indicate the Perſon, whether

whether Man or Woman, to be beloved or favoured of Kings, Princes or great Perſonages; that they ſhall lead an honeſt Life, and affect the Converſation of righteous People.

XII. But if the evil Characters mentioned at *Sect.* IX. aforegoing, be found on this Mount, it ſhews them to be inceſtuous, and femininely affected, not loving, as they ought, their own Parents, attended with Poverty, Weakneſs, and of an unpleaſing Converſation.

XIII. The Letter O being round on the Mount of *Jupiter*, ſhews Honeſty of Life, and Riches all the days of Life, and to be much beloved of Women, of Princes and great Perſons; and the Perſon to be of a ſubtil Wit: but if the Letter O be oval like a Shield, it ſhews Nobleneſs of Mind, Wiſdom, Prudence, Diſcretion, loving and kind beyond meaſure, of a piercing Intellect, growing in Riches and Wealth, and in Love and good Repute with all Perſons, and yet will find but few faithful Friends all the days of their Life.

XIV. *Martial* Perſons are ſuch whom the Line of Life and Natural Line direct, being continued, and well coloured; it ſignifies Boldneſs, much Action, Promptneſs, yet inconſtant, raſh, fierce, ſtout, little caring for Riches or fearing Poverty, getting by right or wrong, without reſpect to Juſtice.

XV. If the good Characters at *Sect.* VIII. be in the Triangle of *Mars*, they ſignify Riches, and Familiarity with Princes, great Captains and Generals, Ingenious, much loving Sciences, and ſuch as can bridle their Anger.

XVI. If the evil Characters at *Sect.* IX. be found in the place of *Mars*, it ſhews one of a hard and ſtoney Heart, full of Wrath and Iniquity, a Patricide or a Fratricide, one of evil Conditions, and ſubject to Stone or Gout; a Perſon Contentious in his Nature, affecting vile Women, Murtherers of Wives or Husbands, Falſe, Lyers, Treacherous, Companions of Thieves and wicked Perſons, ſtudying cloſe and ſecret Miſchiefs.

XVII. *Solar* Perſons have Lines more frequently manifeſt on the Mount of *Sol* than elſewhere, which ſhews them great Inventors and Imitators of ingenious Arts, doing often ſuch things as they were never taught, yet many times poor and ſlighted, but honoured of Strangers,

gers. They are easie to be angred, very loving, yet scarcely having a faithful Friend, of a free and voluble Tongue, easie and harmless Conversation, but often betraying themselves to their Enemies. They love Women, are Courtiers, faithful in their Trust, Wise, Prudent, Noble and Generous.

XVIII. If the good Characters at *Sect.* 8. be found on the mount of *Sol*, it shews a Person, who tho' he may have many Enemies, yet they shall not be able to prejudice him, but he shall be always able to overtop their Malice, and overcome them: He shall grow mighty, and greater than his Parents, and for his Wisdom, Prudence and Generosity shall be beloved of great Persons, and sometimes exalted to Government and Dominion, to great Riches and Honours.

XIX. But if the evil Characters at *Sect.* 9. be found on the said *solar* Mount, they signifie the quite contrary to all the former; the Man shall be a waster and destroyer, and sometimes a Patricide, shall prey upon and subvert other Men, a great lover of Women, sordid in Luxury, loving and delighting therein: He may chance to be hurt by Iron, or Fire, apt to have diseases in his Head, Eyes, and Stomach, and oft-times to die a sudden, or untimely Death.

XX. *Veneral* Persons are such as have the *Mons Veneris*, adorned with lines more than any other place; and tho' they have many times good Fortune, yet they are generally Careless, little minding the cares and affairs of the World; delighting to live Delicately, Nicely, and Idly, without labour or care, of a sweet kind and loving Disposition, and apt to be Amorous, Affable, lavish in their Expences, delighting with Cupid, Mirth, Singing, Dancing, and Musick, eagerly running after every thing their fancy affects.

XXI. If the good Characters at *Sect.* 8. be found upon the mount of *Venus*, they shew merriment, keeping company with noble Persons, growing Rich by Marrying such, and a bettering their Condition by means of goood Women and Religious Persons: they are searchers out of secret things, true, faithful, Amorous, lovers of Gardens, fine Houses, Pictures, and Gallantry, but withal Luxurious, in their sporting and delights with Women,

Women, for which they may be publickly Scandalized, but otherwiſe Fortunate, and may acquire Riches.

XXII. But if on the *Mons Veneris* ſhall be found the evil Characters at *Sect.* 9. it ſhews the Perſon to be unfaithful, bewitched to the love of Women, ſuffering much diſgrace thereby, poor and mean, injurious, a Fornicator an Adulterer, defiling himſelf with his own Blood, Inceſtuous, a Sodomite, a Perſon doing ſordid and vile things, a murtherer of Wives or Husbands, a defiler of their Fathers Beds, and poſſibly may receive ſome hurt in the Eyes by Iron or Fire.

XXIII. *Mercurial* Perſons are ſuch as have many and eminent Lines upon the mount of *Mercury*, and ſuch delight in Singing, Dancing, Eloquence, Muſick, making of Orations, Arts and Sciences, as Grammar, Rhetorick, Logick, Arithmetick, Geometry, Aſtronomy, Dialing, Coſmography, Geography, Navigation, Aſtrology, Law, and the ſearching into profound deep and ſecret things, and loving, and frequenting ſuch company as delight in theſe things.

XXIV. If good Characters are upon that mount of finger, they ſhew fame and honour by Arts and Sciences; they that Travel into forreign Countries, trade and deal abroad, and get great ſubſtance thereby, and it may be, be preferred to ſome Honours, Authority, rule or command in thoſe Places, be apt to learn ſeveral Languages, and be teachers of Arts and Sciences; and tho' wiſe and diſcreet and very Ingenrous, yet be put poor and mean in Youth, but may abound in Riches after the middle Age of Life.

XXV. But if the evil Characters are upon that mount, it denotes the Perſon to be light fingred, Thieviſh, Faſtidious, Impure, Inordinate, Concubinators, Liers, Swearers, Perjured, Treacherous, Unjuſt, Meddlers with other Peoples buſineſs, unſtable, unconſtant, bold, fooliſh, of a ſly muttering Tongue, evil minded, negligent and careleſs of their own Affairs, counterfeiters of Seals, forgers of Writings and falſe Deeds, and ſuch as for the moſt part continue ſuch an infamous courſe of living all the days of their Lives.

XXVI. *Lunar* Perſons are ſuch as have on the Quadrangle or Mount of *Luna* many, fair and eminent Lines,

Lines more than are to be found on other Mounts or Parts of the Hand, it ſhews the Perſon to be mutable and changeable in his Nature and Diſpoſition, often apt to change his Mind, movable in his Perſon, as alſo in his Fortune, not long ſtable in any Condition, very buſy Perſons, and apt to thruſt themſelves into much Buſineſs, and to become very popular.

XXVII. If the good Characters at *Sect.* VIII. be found on this Mount, it denotes them to be fortunate, to be religious, and to love religious Company, yet ſubtil and lofty minded, popular, and learned in Arts and Sciences, they will go to Sea, or get Riches by the Seafaring Trade, are apt to Travel, and get Wealth thereby; they are faithful, honeſt, of good Report, Noble, Magnanimous, and will riſe to Preferments and Honours by the Means and Favours of Rich and Noble Women.

XXVIII. But if any deformed Figures be found on this Mount, or ſuch as are not fair to the Aſpect or Eye, the Perſon will be afflicted with many Sorrows, be troubled with manifold Diſeaſes and Vexations, will conſume his paternal Subſtance, and go behind hand in the World, be a Perſeverer in Evil, involved, and as it were, drowned in Libidinous Actions, unſtable in all things he undertakes, and be affected with the Phthiſick, Aſthma, Blindneſs or hurts of the Eyes, and Diſtempers proceeding from Wind, and poſſibly may periſh by ſome untimely Death.

XXIX. If on the *Mons Lunæ* be found a well conſtituted Croſs, with fair and bold Lines, it ſhews the firſt and third part of their Lives to be poor and needy; but in the ſecond part of their Lives, they ſhall abound in Riches, even to Admiration; and again in Age be reduced to their firſt Condition, according as the other Mounts and Lines ſhew an encreaſe or diminution of Fortune.

XXX. It were good in this Caſe, to adviſe ſuch Perſons not to Marry, but rather to retire, if they have a Subſtance which will anſwer it, or elſe to betake themſelves to the Service of ſome Great or Noble Perſon, where they may lead an eaſy, ſafe and quiet Life, free from the Turmoils of the World, and the manifold Changes of unconſtant Fortune.

CHAP. IV.

The General Judgments of the Hand.

I. IF the end of the *Digitus Mercurij* extends beyond the laſt Joynt of the *Annularis*, ſuch a Man is Maſter of his Houſe, and has, or ſhall have an obedient and well-pleaſing Wife: but if it is ſhort, and reaches not to the Joynt, he has, or will have a Shrew, an imperious, commanding Woman, and one who will wear the Breeches.

II. But if in one Hand the little Finger exceeds the Joynt of the *Annularis*, and in the other it is ſhorter, it denotes one Wife to be obedient and good, and another to be a Shrew, diſobedient and evil.

III. If the longeſt little Finger is on that Hand, which ſhews the Lines moſt conſpicuous, then the firſt Wife will be the good Wife, the ſecond the evil: and contrariwiſe, if the ſhorteſt little Finger be on the moſt ſignificant Hand.

IV. If there be any Lines at the tops of Fingers, beware of Drowning or falling into Water: obſerve in what Finger theſe are, ſo may you know the Month in which this Misfortune will happen.

V. If they are on the *Digitus Jovis*, the Danger will be in *March*, *April* or *May*; if on the *Digitus Saturni*, then in *December*, *January* or *February*; if on the *Digitus Solis*, then in *June*, *July* or *Auguſt*; but if on the *Digitus Mercurij*, the Danger will be in the Months of *September*, *October* or *November*.

VI. If you find two Lines under the Joynt of the Thumb, it ſhews great Inheritances and Poſſeſſions; but if there is but one, it ſhews no great Wealth: if theſe Lines be great and apparent, the Perſon has ſome Eſtate, about which he is in Debate or Law Suits.

VII. If between the Joynts of the Thumb there be two Lines ſtretched out, and well united, the Perſon will be a Gameſter; but by means of his Gaming, he will be in danger of his Life: but if they be diſ-joined, or winding and crooked, he will hazzard to fall into Thieves hands, and be Robbed.

VIII. If

VIII. If the Hand has two Lines joined together within, under the laſt Joynt of the Thumb, it ſhews Danger by Water; but if they are pale, it ſignifies that Danger to be in Childhood, or that it will happen in Age: but if theſe Lines are without, it threatens Loſs by Fire.

IX. If a Woman has Lines at the Root of the Thumb, upon the Mount of *Venus*, ſo many Lines as there are, ſo many Children ſhall ſhe have; if they Verge towards the outſide of the Hand, ſo many Men ſhall have to do with her, or Marry her.

X. If the firſt Joynt of the Thumb has Lines which joins to it within, from the part of the fore Finger, that Perſon will be in danger of Hanging, and ſo much the more certain it is, by how much the more the ſaid Line repreſents it, and deſcends from the Table Line.

XI. But if the ſaid Line be united without, and not within, it ſhews the Perſon ſhall looſe his Head; if it is environed all about, the Perſon ſhall be Hanged.

XII. If the Table Line is crooked, and falls between the middle and fore Fingers, it ſignifies Effuſion of Blood.

XIII. If the Fingers are thicker at the Joynts than between, and that the *Internodia* be ſmall, ſlender and dry, as if the Fleſh were waſted, it foreſhews Poverty and Miſery; the Perſon is a great Talker, and over-wiſe.

XIV. The *Mons Veneris* ſwelling up, or being high, ſhews Luxury, Wantonneſs, unlawful Loves and Whoring.

XV. If on the Mount of *Venus* ſeveral Lines ſhall thwart from the Line of Life to it, the Perſon is Luxurious and Wanton; and for that ſhall be hated.

XVI. But when you find two Lines (from the Life Line) near the Thumb, and they fair and apparent, they ſignify much Wealth and Riches.

XVII. If you find the Fingers retorted, as it were, at the higheſt Joynt, and a little bending backwards orderly, it is a ſign of a virtuous Envy or Emulation, and that the Perſon is a profeſſed Enemy to Vice.

XVIII. If the whole Fingers ſhall be bending backwards, it ſhews one Ingenious and Subtil, but ſometimes Unjuſt and Miſchievious.

XIX. If the Line of Life ſhall be ſeparated or divided into halves, the Perſon ſhall be Wounded into his Body with a Sword.

XX. If the Hand is ſhorter than it ſhould be, according to the Proportion of the other Members, it ſhews the Perſon is a great Talker, a Glutton, Cenſorius, Inſatiable, Injurious.

XXI. If a Woman has the Palm of the Hand ſhort, and the Fingers long, it is a ſign that ſhe ſhall bring forth with great Pain and Difficulty. The reaſon is, becauſe the privy Parts are narrow, for the Fingers have Reſemblance of them.

XXII. If a Perſon has a Hand ſomething long, and the Fingers ſomewhat thick, it ſhews the Perſon to be ſlothful, idle and careleſs, yet a good Perſon and very modeſt.

XXIII. If the Hands be long and great, it ſhews one Liberal and good Conditioned, a Perſon of Subtilty, and of a great Spirit, a Perſon of Prudence and Advice, and a faithful Friend.

XXIV. If the Palm of the Hand is long, and the Fingers of a good Proportion, and not ſoft in touching, but rather hard, it ſhews one Ingenious, but Mutable, and given to Luxury and Wantonneſs.

XXV. If the Palm of the Hand is longer than its due Proportion, and the Fingers more thick, and alſo ſhort, by ſo much as they are the more ſhort, they ſignify the Perſon to be ſo much the more idle, careleſs, negligent, fooliſh and proud.

XXVI. If the Hand is hollow, ſolid, and well knit in the Joynts, the Perſon is likely to live long; but if over-thwarted, it ſhews ſhortneſs of Life.

XXVII. If the Hand is according to the Proportion of the reſt of the Body, but the Fingers are too ſhort and thick, and fat at the ends, it ſhews a Perſon Vicious, and furniſhed with crafty and evil Deſigns.

XXVIII. If angular Branches ſpring from the Table Line towards the Mounts of any of the Planets, they ſignify much Good, Profit and Gain to the Perſon, from things ſignified by that Planet.

XXIX. If angular Branches, with fair and good Lines, ſpring from the Natural Line, and tend towards any of the Planetary Mounts, they ſignify Health, Strength and Wealth,

Walth, and that the Perſon ſhall bend his mind to ſuch things as that Planet naturally ſignifies.

XXX. If angular Branches, with fair and good Lines, ſhall ſpring from the Life Line, tending towards ſome of the Planetary Mounts, they ſignify Strength of Life, and Years, and that the Life ſhall be made happy and eaſy by ſuch things as are ſignified by the Planets who are Lords of thoſe Mounts.

CHAP. V.

Of the Line of Life.

I. Καρδιακὴ *Linea Cardiaca*, *Linea Vitalis*. The Line of Life is that which encludeth the Mount of the Thumb.

II. This Line, broad and of a lively colour, well or largely drawn, without Interſections and Points, ſhews long Life, and one ſubject to few Diſeaſes; but ſlender, ſhort and broken, or cut with little croſs Lines, of a pale or black colour, ſhews ſhort Life, with many Infirmities.

III. If it makes a good Angle with the *Hepatica*, and the Angle be adorned with Parallels or little Croſſes, it ſhews a good Wit and a pleaſant Diſpoſition.

IV. This *Linea Vitalis* abounding with Branches towards the upper end, and thoſe Branches extending themſelves towards *Linea Hepatica*, forethew Riches and Honour; but if thoſe Branches deſcend towards the *Reſtricta*, they threaten Poverty, Contempt and deceitful Servants.

V. If this Line be cut with little Lines like Hairs, it ſignifies Diſeaſes, which if they fall towards the *Hepatica*, ſhews in the younger Years, in the middle of the Line, in the middle of the Age, if towards the *Reſtricta*, in the latter Years.

VI. If this Line be any where broken, it threatens great Danger of Life in that Age which the place of the ſaid Breach betokeneth, which you may find out with a great deal of Exactneſs, if you divide the Line into

ninety equal parts, beginning to number them from A towards B.

VII. If the Character of *Sol*, (*viz.* ⊙) be found in this Line, it ſhews the loſs of an Eye, if two ſuch Figures the loſs of both Eyes.

VIII. A Line paſſing through this *Vital* to the Triangle of *Mars*, ſhews Wounds and Fevers, and many Misfortunes in Journeying.

IX. A Line proceeding from the Vital beneath the Angle it makes with the *Hepatica* to the Mount of *Saturn*, ſhews an Envious Man, as alſo ſome dangerous *Saturnian* Diſeaſe, as a Conſumption, *&c.* which ſhall fall in thoſe Years ſignified by that part of the Vital Line, which the ſaid Line toucheth.

X. But ſuch a Line paſſing from the Vital to the Ring Finger, ſhews Honour and Wealth, and that by means of ſome Noble Woman.

XI. If it is long, not cut, of a good colour, and well anſwering the Wriſt, it ſhews a long and quiet Life.

XII. If a Star be placed therein, ſome of whoſe Beams may reach to the Mount of *Venus*, *Jupiter* or *Mars*, it ſhews Misfortune in matters of Love, Honour or War.

XIII. If there is a double Line of Life, they ſignify many Years and fortunate, and the Favour of Kings, Princes and great Men; alſo Victory in Wars, encreaſe of Power and Wealth.

XIV. If a Woman has a double Line of Life, they ſignify great Fortune, and a Woman much beloved of her Husband; if ſhe proves Unchaſt, ſhe becomes a Miſtreſs to ſome great Man or Men.

XV. If the Life Line be pale or livid, it ſhews much Fury, which will be the cauſe of ſhortning the Life.

XVI. If it ſtrikes up with Branches between the Mounts of *Jupiter* and *Venus*, it is a ſign of great Riches and Honours.

XVII. If a Star be at the lower end of it, it ſhews Diſeaſes in old Age: if any Lines thwart or croſs it, they are unfortunate, and ſignify ſo many Diſeaſes.

XVIII. If there are three Stars within this Line, they ſignify Calumny, Slander and Diſgrace by means of Women, *& contra.*

XIX. If there be Croſſes in it, Women ſhall love him, but he ſhall be Unfortunate by reaſon of them, and in danger of his Life.

XX. If

XX. If this Line is entire, long, clear, ruddy, it is a ſign of long Life, Health and good Fortune; but if ſhort and abrupt, the Perſon will Die young.

XXI. If it makes an Angle with the *Menſal* under the Mount of *Jupiter*, it ſhews great Credit and Reputation with the People, and much Wealth by Induſtry.

XXII. The *Linea Vitalis* being cut at top, between the Thumb and Mount of *Jupiter*, ſhews Sickneſs in Youth, or the younger Years; but if on the ſide of the Triangle of *Mars*, more towards the middle of Life.

XXIII. If a Triangle is in the midſt of the Line of Life, the Perſon will be Murthered: if there be two ſuch Triangles in it, they will Die by the hand of Juſtice.

XXIV. If there are Lines coming from the Mount of *Venus*, and croſſing the Life Line, it denotes one unfortunate in Love, and Death either by Sickneſs or otherwiſe.

XXV. The Line of Life crookedly forked, with uneven Croſſes, towards the Wriſt, it ſhews one not very Wiſe, a Wanderer and Vagabond.

XXVI. Two Croſſes at the upper end of the Line of Life, near the Thumb, in a Womans Hand, it denotes her to be Unchaſt, Lewd and Shameleſs.

XXVII. If it is divided in the middle, it ſhews great Sickneſs in the middle part of Life; if towards the Wriſt, a languiſhing Diſeaſe in old Age.

XXVIII. The Line of Life groſs and red, it ſignifies one Proud, Haughty and Cruel, and delighting in Cruelty; one of a good Ingenuity, but employs it to evil Deſigns.

XXIX. If there be three Stars or three Points in the Line of Life, they ſhew Slanders and Diſgrace by occaſion of Women: if thoſe Stars are without the Line, the Perſon receives Diſgrace, but recovers his Reputation again.

XXX. If a Triangle is at the end of the Line of Life, towards the Wriſt, it ſhews one full of Words, Falſe, and importunate in begging any thing.

XXXI. If a Croſs is made between the Line of Life and the middle or Natural Line, it ſhews the Perſon to be Generous, Liberal, Noble and Wiſe, and one beloved and reſpected of the greater and better Sort.

XXXII. If the *Soror Martis* is parallel to the Line of Life; having a Croſs, it ſignifies Goodneſs, Sweetneſs of Temper, and Uprightneſs of Mind.

XXXIII. If it branches towards the *Hepatica*, or Natural Line, it ſhews Honour, Riches and Dignities.

XXXIV. If it branches out towards the Wriſt, it denotes Unfaithfulneſs of Servants, Calumny, Diſgrace and Poverty.

XXXV. If it is diffuſed into divers ſmall Lines, it prenotes Sickneſs, Poverty and Want towards old Age.

XXXVI. If there be Croſſes in it looking towards the *Hepatica*, it ſhews Dangers, Misfortunes, malign Fevers, and ſudden Death.

XXXVII. If it is forked, ſo as one of its Branches point towards the *Mons Solis*, it ſignifies honourable Marriage, Riches by Women-kind, and Favors from Women.

XXXVIII. If the two ends of the Fork bend towards the Mount of *Venus*, it indicates Whordoms, Fornication, Adultery, Inceſt and Sodomy.

XXXIX. If the ſame thing be found in a Womans Hand, it ſhews an infamous, impudent, luſtful, ſhameleſs Whore.

CHAP. VI.

Of the Epatick, or Natural Line.

I. THE Natural or Liver Line is that which runs from the Life Line or Mount of *Jupiter* through the middle of the Palm, terminating generally upon the Mount of *Luna*.

II. This Line ſtraight, continued and not cut by other oblique Lines, ſhews a healthy Conſtitution and long Life; but ſhort or broken, not reaching beyond the middle of the Palm, ſignifies a ſhort Life replete with many Diſeaſes.

III. The longer this Line is, ſo much the longer Life it ſignifies, if it be cut at the end thereof, it threatens the end of Life with ſome dangerous Diſeaſe

IV. If

IV. If any Breach appears, (yet ſuch an one as ſeems almoſt continued) it ſhews a Change of Life, if under the middle Finger, in ſtrength of Years, if under the Ring Finger, in declining Age.

V. If the upper part of it be far diſtant from the Vital, it ſhews manifold Diſeaſes of the Heart, and alſo a prodigal Perſon.

VI. If it be crooked, unequal, of various Colours, and cut by other Lines, it ſhews an evil Habit of the Liver, and Diſeaſes thence proceeding, one Ill-natured and Fooliſh.

VII. If ſtraight drawn and well coloured, ſhews Wit, Honour and Health.

VIII. If it has a Parallel or Siſter, it gives Inheritances.

IX. If continued with little hard Knots, it ſhews Murder according to the number of thoſe Knots.

X. If it terminates with a Fork or Angle towards the Mount of *Luna*, it ſhews a Fooliſh, Hypocritical, Ill-natured Perſon; if it tends to the *Menſal*, it ſhews a Slanderous and Envious Perſon.

XI. When it cuts the Vital eminently to the Mount of *Venus* or *Soror Martis*, eſpecially if the ſame be of a ruddy colour, ſhews danger of Thieves and many ill Diſeaſes, threatning Life.

XII. If it has many Croſſes in it, it ſignifies Riches and good Fortune; but he will be one given to Lying and Flattery.

XIII. So many Lines as are between this Line and the *Menſal*, ſo many Sikneſſes they ſignify to happen in the firſt Age, but they ſhall not be Mortal: if the ſaid Lines extend to the middle Finger, thoſe Sickneſſes ſhall happen in the ſecond Age; but if they reach as far as the fore Finger, thoſe Sickneſſes ſhall happen in old Age; in the firſt of which beware of Death.

XIV. If in this Line there be any Knots, ſo many as there are, ſo many Murthers ſhall the Perſon commit.

XV. If a Woman have theſe Knots, ſhe will Kill her Husband, or ſome of her Children.

XVI. If it is of a pale colour, it ſhews an Ill-conditioned Perſon, and ſubject to many Diſeaſes.

XVII. If there be any Croſſes upon it, or but half Croſſes, it denotes the Perſon to be beloved by ſome eminent

minent Church-men, as Biſhops, *&c.* and to have Preferment by their means.

XVIII. If it has a Croſs in it near the middle Finger, it ſhews a violent Death by Aſſaſſination.

XIX. If it is retorted, and touches the Table Line, it denotes ſome great Loſs to happen unexpectedly, and by Accident.

XX. If this *Hepatick* Line is double, it ſhews that an Inheritance ſhall fall to the Perſon in their middle Age.

XXI. The number of Croſſes between the *Hepatick* and the *Mons Lunæ*, ſignify ſo many Favours from great Men, but with danger of Impriſonment.

XXII. If this Line is great and broad, it denotes many Years, at leaſt 80 or 90 Years, and in old Age, Poverty.

XXIII. If this Line is cut in two and diſcontinued, and ſhall be ſo cut by certain Clefts, let the Perſon avoid Princes and great Men, and their Services, leaſt he looſe his Life.

XXIV. A half Triangle or Triangle being juſt between this Line and the Line of Life, in the Plain of *Mars*, it ſignifies Combats, Duelling and Quarrelling.

XXV. If it is twice forked, and looks towards the *Hypothenar*, it ſhews Hypocriſie, Zeal, and Deceit in Religion.

XXVI. If it be obſcure and thick, it ſhews a weak, dull Mind; but if it is little, with this Obſcurity, it ſhews one Fooliſh, and full of vain and idle Words.

XXVII. If it has in it certain Points and Marks, he will be ſubject to Diſeaſes, and be in danger of being Murthered.

XXVIII. If this Line is not found when the Vital and Menſal ſhall join together and make an Angle, the Perſon will be Bold, Beſtial and Cruel, and in danger of his Life, till his 30th Year is paſt.

XXIX. If this Line is wanting, and inſtead thereof a Star or Croſs be found, let him beware of the Gallows.

XXX. If this Line makes an Angle with the Life Line, tho' obtuſe, or there be any Stars or Croſſes between it and the Life Line, it ſhews one Virtuous and Good, of a generous Spirit and noble Courage: but in a Woman it ſignifies Malice, and an ill Underſtanding betwixt her and her Husband.

XXXI. If

XXXI. If in a Man this Line is red and well coloured, with ſome Branches making an Angle, it ſhews one Cruel, Mercileſs, and given to Quarrelling and Fighting.

XXXII. The ſame in a Womans Hand, ſhews her to be at Variance with her Husband, and may be in danger of Killing him, without any Cauſe or Reaſon.

XXXIII. If a Woman has this Line half doubled, it ſignifies that ſhe will live to a great Age, and Marry many Husbands, yet not have many Children, being very Letcherous.

XXXIV. If in this Line there is a right-lin'd Triangle, near the Table Line, and the Line of Life, it ſhews a Man too ſingular as to matters of Religion, and one that will not be Prieſt-ridden.

XXXV. If this Line is ſtraight and not diſtinct, but is croſſed by other Lines, it ſhews Health, a great Underſtanding and Memory, yet one Hair-brain'd, changeable in the moſt ſerious things, and ſcarcely reſolved in any thing.

XXXVI. If the *Hepatica* reaches almoſt to the Wriſt with the *Cephalica*, it ſhews Weakneſs of Brain and Simplicity, and danger of Madneſs or Dotage: and in a Woman, that ſhe ſhall have hard Travel in Child-bearing, and may grow Craſed in her Underſtanding.

XXXVII. If the *Hepatica* is winding up and down, and waving, it ſhews an ill Mind, a Cheat, a Thief, *&c.* but otherwiſe it ſhews an Honeſt, True, Juſt, Virtuous, Good Perſon.

XXXVIII. If it is forked, or when there is above it this Figure ⊕ *viz.* Part of Fortune, it ſhews great Riches and Dignities, Knowledge of Arts and Sciences, Greatneſs and Subtilty of Spirit.

XXXIX. If together with the *Cephalica* it is forked, or makes up a Triangle or Quadrangle, it ſhews one Covetous of Wealth and Honour, which he will endeavour for by all ways right or wrong.

XL. The *Epatica* ſtraight, ſhews Health and Proſperity; but if crooked, Sickneſs and Shortneſs of Life; if crooked and of divers colours, Weakneſs, Swooning, Palpitation of the Heart, Waſting, *&c.*

XLI. If it is well coloured, it ſhews Goodneſs, one of a ſubtil Spirit, pleaſant and Merry.

XLII. If

XLII. If there be a Croſs at one of its Extreamities, it denotes danger of being Robbed, and at length ſudden Death: and if forked in the Extreamities, Poverty, Beggary and Contempt; and in old Age, one overwhelmed with Cares, Troubles, Afflictions and Straights.

CHAP. VII.

Of the Cephalica or Head Line.

I. THE *Cephalica* ariſeth below from the *Cardiaca*, and is drawn thence to the *Epatica*, thereby making a Triangular Figure.

II. Making ſuch a perfect Figure, and it having a lively colour, without Interſection, declares one of great Prudence, and a Perſon of no Vulgar Wit or Fortune.

III. So much the more perfect the Triangle, ſo much the more Fortunate, and it ſhews a Man very Wiſe, Temperate and Couragious.

IV. If the Triangle be obtuſe, it ſhews an evil Nature, Clowniſh and Rude, if there be no Triangle, it is ſtill worſe, and ſhews the Perſon to be Fooliſh, a Liar and Prodigal, and generally one of a ſhort Life.

V. The higher Angle being right, or not very acute, ſhews a Generous Man; but if it be very acute, or if it touch the Line of Life under the Mount of the middle Finger, it declares a miſerable, hard and covetous Wretch, alſo foreſhews a Conſumption.

VI. The left Angle made upon the *Epatica*, in the *Ferient*, (being a right Angle) ſhews a profound Underſtanding.

VII. The *Cephalica* caſting unequal and irregular Clefts to *Mons Lunæ*, thereby conſtituting ſtrange Characters, ſhews a dull Head, and Danger by the Sea in Men: but in Women Diſcontents, Miſcarriages, and the like.

VIII. But caſting equal Lines, it preſages the contrary in both Sexes: to wit, In Men Wiſdom, and Succeſs at Sea; and in Women Contentment and happy Childbearing.

IX. If

IX. If the *Cephalica* makes a Cleft or apparent Star upward to the *Cavea Martis*, it ſhews Boldneſs and Magnanimity of Mind: but if it let the ſame fall downward, it manifeſts Deceit and Cowardiſe.

X. The *Cephalica* joined to the *Reſtricta* by a remarkable Concourſe, ſhews a happy and joyful old Age.

XI. But if it be drawn upwards, (in form like a Fork) towards the place of Fortune, it ſhews much Subtilty and Craft in the Management of Affairs.

XII. If in this Fork the Character of ⊕ *Sors* be found, it ſhews Riches and Honour by the Mans own Induſtry.

XIII. This is the Line which makes a Triangle with two other Lines, *viz.* the *Epatica* running on the Top, or if you pleaſe, on the Baſis of the Triangle, the Line of *Saturn* under the *Mons Saturni*, making the one Leg; and this Line riſing from the bottom of the *Saturnia* towards the *Mons Solis* or *Mercurij*, making the other Leg.

XIV. A Croſs or Croſſes in the Extremity of this Line, ſignifies one Pious and Religious, Devout, and a Votary to Sanctity.

XV. The *Cephalica* making a Triangle with the *Epatica* and *Cardiaca*, it ſhews Ingenuity, good Fortune, a happy Life, and a quiet and peaceable old Age.

XVI. The *Cephalica* forked towards the *Menſal*, ſhews a Perſon active in all kinds of Affairs, and one very Ingenious in Arts and Sciences, and taking Pleaſure in the ſame.

XVII. If it is ſtarry towards the Plain of *Mars*, it prenotes Boldneſs, Courage, Promptitude, Raſhneſs and Stoutneſs.

XVIII. If the *Cephalica* near the Hand-wriſt be not divided or interrupted, but of a good Proportion and Colour, and aſcending up to the Line of the Stomach or *Epatica*, and making with the *Linea Vitalis* a perfect Triangle, it ſhews one Prudent and Wiſe, Fortunate and Proſperous in all things, and that he is the Favourite of Fortune.

XIX. If the *Cephalica* is ſhort, it ſhews Folly, Prodigality, Beggary, Lying and ſhortneſs of Life.

XX. The *Cephalica* broken or divided, and winding, it ſignifies Misfortunes, Weakneſs of Brain, and of the

Animal

Annimal Functions, Fearful and Fooliſh: and if a Woman, ſhe Dies in Child-bed, or has hard Labour.

XXI. If it is without any breaking at the *Reſtricta*, it ſhews Honeſty and Quietneſs, Glory, Prudence, Wiſdom, and much Wealth or Riches, and a good old Age, without Trouble.

XXII. If there be in this Line any Stars, being in the *Triangulum Martis*, it denotes the Man apt to pick Quarrels.

XXIII. But if a Star be in this Line, looking towards the Brawn of the Hand, it ſhews one ſubject to Theft, Robbery, Fraud, Deceit, and other ill Actions.

CHAP. VIII.

Of the Menſal *Line, or Line of Fortune.*

I. THE *Menſal* or Line of Fortune (called alſo *Linea Thoralis*) takes its Original from under the Mount of *Mercury*, and extends it ſelf towards the Mount of *Jupiter*.

II. This Line, if it be long enough and without Inciſures, ſhews Strength of Body, and Conſtancy of Mind; the contrary if it be ſhort, crooked or cut.

III. If it terminates under the Mount of *Saturn*, it ſhews a fooliſh, idle and deceitful Perſon.

IV. If in this Line be found certain Pricks or Points, it ſhews a Letcherous Perſon.

V. If the *Epatica* be wanting, and the *Menſal* be annexed to the *Vital*, it foreſhews either Beheading, Hanging, or other untimely Death.

VI. If from the *Menſal* a Line aſcends to the ſpace between the Mounts of *Jupiter* and *Saturn*, another to the ſpace between the Mounts of *Saturn* and *Sol*, and a third to the ſpace between the Mounts of *Sol* and *Mercury*, it ſignifies an Envious, Turbulent and Contentious Perſon.

VII. A little Line only thus drawn to the ſpace between the *Mons Saturni & Solis*, ſhews Labour and Sorrow.

VIII. If

VIII. If annexed to the *Epatica*, making therewith an acute Angle, the ſame.

IX. The *Menſal* projecting ſmall Branches to the *Mons Jovis*, ſhews Honour and Glory.

X. But if it be naked or ſingle, it ſhews Poverty and Diſtreſs.

XI. If it cuts the Mount of *Jupiter*, it ſhews a covetous Mind, and great Pride.

XII. If it ſend a Branch between the *Mons Jovis & Saturni*, it ſhews in a Man, a Wound in his Head; but in a Woman, Miſcarriage or Danger in Child-bearing.

XIII. Confuſed little Lines in the *Menſal* ſhew Sickneſs and diſeaſes; if under the *Mons Saturni*, in Youth; under the *Mons Solis*, in the middle Age; under the *Mons Mercurii*, in old Age.

XIV. If there be no *Menſal* at all, it ſhews one Faithleſs, Baſe, Inconſtant and Malicious.

XV. The ſpace between this *Menſal* and the *Linea Hepatica*, is called the Table: if this Table is fair and large, broad and continued, or filled with good Characters, it ſhews a large and ample Fortune, and the larger the more ſplendid the Fortune.

XVI. The beginning of this Table, which is moſtly under the Mount of *Jupiter*, ſhews the beginning and former parts of Life: that part of it near the Mount of *Luna* and under *Mercury*, the latter parts of Life.

XVII. In the *Menſal* Line conſiſts the greateſt part of Chiromantical Signatures, becauſe it runs along under the four Mounts of *Jupiter*, *Saturn*, *Sol* and *Mercury*, and moſtly terminates upon the Mount of *Luna*.

XVIII. If a Star is upon this Line under the Mount of *Jupiter*, it ſhews evil in reſpect of Riches; if under the Mount of *Saturn*, want of Health; if under the Mount of *Sol*, Diſhonour and Diſreſpect; if under the Mount of *Mercury*, want of Succeſs as to Sciences and Merchandizing.

XIX. If a Croſs is upon this Line in the ſame places, it ſhews good Fortune in the ſame things as the other did evil: thus Authors: but I have obſerved, that a Star in thoſe places has preſaged ſingular good Fortune to the Perſon; and therefore referr thoſe Judgments to ſome ill Characters placed thereon.

XX. If

XX. If this Table Line is large, clear and well coloured, it ſhews Pleaſantneſs, Courage, Liberality, Magnanimity of Mind, Faithfulneſs and long Life.

XXI. If there be Croſſes in this Line towards the little Finger, it foreſhews Death in a proportionate number of Years; but a little Star ſignifies Exile, Impriſonment and Shame: I am of Opinion, that a little Star ſhews the leſſer Good.

XXII. The Table Line making an Angle with the *Epatica*, under the Thumb, ſhews one ſuperlatively Covetous.

XXIII. The *Menſal* naked and ſingle near the Mount of *Jupiter*, or a Star there, it ſhews Poverty.

XXIV. If other Lines thwart this Line, it ſignifies ſo many Afflictions and Sickneſſes, which ſometimes may be cauſed thro' Love.

XXV. The *Menſal* ſtretching beyond the middle Finger, it ſhews Felicity and Riches; but if not, Poverty: and in a Woman, that ſhe will be given to Whoring and Pleaſure, Vanity and Lying.

XXVI. If it is double or divided into three, in one of the Extremities, it ſhews one Fortunate, Stout, Liberal and Modeſt.

XXVII. If it is forked in the end towards the *Mons Jovis*, or full of Branches near the *Mons Lunæ*, or hairy at the Extremities, it ſignifies diſquiet and doubt of Mind, Anxieties, Miſery, and Loſſes; or Riches acquired thro' Violence and Deceit; but the Perſon himſelf may poſſibly be of a good Humor.

XXVIII. If it gives Branches between the fore Finger and the middle Finger, it ſhews a Wound in the Head, Quarrelling; and to a Woman, Death in Child-bed.

XXIX. But if it gives Branches on the Mount of *Jupiter*, it ſignifies Prelacy, or Eccleſiaſtical Honours, Dignities and Preferments: ſo alſo if there is upon this Line two Croſſes.

XXX. If viſible Points be ſeen in this Line, it ſhews Luſtfulneſs, Laſciviouſneſs and Incontinence.

XXXI. If the *Menſal* is crooked, it ſhews untimely Death by ſome Accident or Caſualty, or Biting of ſome Mad Beaſt.

XXXII. If in the Extremity near the *Mons Lunæ* there is found an O or Circle, and if the Line be double, it ſhews

ſhews Wounds by Weapons or Fire; and in Combats and Duels he will be overcome.

XXXIII. The *Menſal* ending between the middle and fore Fingers, it prenotes one very Weak and Sickly, ſubject to Bloody Fluxes; and if it be a Woman, ſhe will Die either in Child-bed, or by ſome Flux of Blood.

XXXIV. If two Branches iſſue from the *Menſal*, and reach to the *Natural* or *Epatica*, thro' the middle of a Croſs, it gives the finding of hidden Treaſures, and by the means of *Saturn*, if under the *Mons Saturni*. He that has ſuch Branches ſhall be Fortunate, thro' finding out hidden things.

XXXV. The *Menſal* having a Branch towards the fore Finger, and another towards the middle Finger, if it be blunted or obtuſe, it ſhews one Fortunate, and that ſhall obtain great Riches.

XXXVI. If upon the *Menſal* there be another Line, it ſignifies Inconſtancy, as *Taiſner* and *Indagine* ſay; and if it be a Woman, ſhe will delight in Company-keeping, but may not be ſo bad as reported.

XXXVII. Two Branches going out of the *Menſal* like the Character of ♒ *Aquarius*, bending towards the little Finger, it ſhews one very deſirous of Learning and Knowledge, even to thoſe Arts which are unlawful, as Sorcery, whereby he may looſe his Life or Honour.

XXXVIII. If in the *Menſal* a Cutting happens between the Ring Finger and little Finger, which ſeparates the two Mounts thwarting this Line, it ſhews Loſs and Ruine by Law Suits, and Suits about an Inheritance of Land.

XXXIX. If the *Menſal* is wanting, it ſhews loſs of Eſtate, or of an Inheritance; but in length of time he may, by his own Induſtry, gain Wealth and Riches beyond Expectation.

CHAP. IX.

Of the Reſtricta *or* Cauda Draconis.

THE *Reſtricta* is that Line which divides the Hand from the Arm, either by a ſingle, double or triple

Tranſcurſion, thereby determining the τὸ ὑποκείμενον or Subject of Art; which by ſome is called the *Diſcriminal* Line.

II. If the *Reſtricta* be double or treble, and extended in a right and continued tract, it ſhews a healthful Conſtitution of Body, and long Life.

III. That Line which is neareſt the Hand, continued without Inciſure, and of a good colour, ſhews Riches.

IV. But if it be pale or crooked, or cut in the middle, it ſhews Weakneſs of Body and Poverty.

V. A Line drawn from the *Reſtricta* to *Mons Lunæ*, ſhews Poverty, Impriſonment and private Enemies.

VI. If that Line be crooked, it doubles all the Evil, and ſhews a perpetual Slavery or Miſery.

VII. But ſuch a Line being clear and ſtraight, and extended to the *Mons Lunæ*, ſhews many Journeys and Peregrinations both by Sea and Land.

VIII. If it extend to the *Mons Jovis*, it foreſhews Eſtimation and Eccleſiaſtick Dignity, but that the Man ſhall live in a ſtrange Country.

IX. If to the *Epatica*, it ſhews Honeſty, Truth and Sincerity, and one of a healthful and long Life.

X. If to the *Mons Solis*, a great and certain Good, and gives Honour and Command in the Commonwealth.

XI. And ſo from the ſame Reaſon, paſſing to the *Mons Mercurii*, it ſhews a learned and ingenious Soul; but if it reach not that Mount, but is broken about the middle, it ſhews a lying, prating, idle Perſon.

XII. If it aſcends directly to the *Mons Saturni*, it ſhews an Inheritance in Land; but if it be crooked, it ſhews a covetous Perſon, and one of a very ill Nature.

XIII. A Line running from the *Reſtricta* through the *Mons Veneris*, ſhews Poverty, Adverſity and Want, and that by means of ſome Women or Woman-kind.

XIV. A Croſs or Star upon the *Reſtricta*, ſhews a happy and long Life.

XV. One or more Stars upon the *Reſtricta*, by the *Mons Veneris*, in Women, ſhews Lewdneſs, Diſhonour and Infamy.

CHAP.

CHAP. X.

Other Obſervations on the Hand-Wriſt.

I. IF four Lines be in the Hand-wriſt, all alike and well coloured, they ſignify an Age of 80, 90 or 100 Years or more.

II. And if there is two little Branches, making a ſharp Angle, it ſhews the Succeſſion of an Heritage by the Death of ſome Relation, and in his old Age he ſhall attain to ſuch Honours as he is capable of.

III. If there be many Lines upon the Hand-wriſt, 30 Years is to be allowed to every Line; but whether they be few or many Lines, you are to comprehend therein all the Ages of the Givers of Years.

IV. The Ages of *Saturn* are 150, 57, 43 and 30 Years; of *Jupiter* 136, 80, 45 and 12 Years; of *Mars* 121, 66, 40 and 15 Years; of *Sol* 120, 90, 70 and 20 Years; of *Venus* 135, 82, 45 and 8 Years; of *Mercury* 144, 77, 50 and 20; of *Luna* 108, 90, 66 and 25.

V. If the Lines are many, ſtrong, good, ſtraight, and at large diſtances, they ſignify the greateſt Years; but if fewer in number, the leſſer Years; ſo alſo if they be but two Lines, and they pretty far aſunder: otherwiſe, if but two Lines, and near together, they ſignify the mean Years; and if but one Line, the leſſer number of Years.

VI. The Giver of Years is known by conſidering the Mounts or Places of the Planets; for that Planet is the Giver of Years whoſe Mount or Place is fulleſt or moſt adorned with Lines of what kind ſoever.

VII. If the Lines or Characters upon thoſe Mounts or Places be ſtrong, fair and good, they ſignify the greateſt or greater Years, the *Reſtricta* concurring; but if they be weak or evil Characters, then the leſſer and leaſt Years.

VIII. If there be three Lines in the Hand-wriſt, the Perſon may live to 90 Years of Age, and if they be deep, and the Spaces broad, then they may live to 100 Years; and it may be (if of a ſtrong Conſtitution) live many Years beyond it.

IX. If there be but two Lines, the Perſon may live to be about 60 Years of Age; but if the Lines be ſtrong, deep and good, and the Space large or broad, they may live to 70 or 80 Years or more.

X. If there is but one Line, it ſignifies ſhort Life; if there is more than one, and the firſt is crooked, and the reſt ſtrait, with an Angle, and continued, it ſhews a weak Conſtitution.

XI. If Lines are ſcattered abroad in the Hand-wriſt, it ſhews about 40 Years of Age, one Couragious, but of little Wit.

XII. If the Lines upon the Hand-wriſt croſs one another, it is hazardous but the Perſon may Die by the Sentence of the Judge.

XIII. If the firſt Line of the Wriſt is groſs and thick; the ſecond fine and ſmall or ſlender; and the third again be thick and groſs, they ſhew that the firſt Age ſhall abound with Riches; the ſecond Age ſhall be filled with Poverty and Misfortune; but the third or laſt Age he ſhall recover his Riches and good Fortune again: and if there is a fourth Line, and it is ſmall, he ſhall meet with Misfortunes and Poverty again, and ſo end his Life.

XIV. If the Lines of the Hand-wriſt come to the flat of the Hand, they ſhew great Inconſtancy and Irreſolution.

XV. If a Line croſſes the Wriſt, and crookedly ſpreads it ſelf towards the Line of Life, it ſhews Sickneſs; if it is pale, it ſignifies Death to be near; if it is black, it ſhews the approach of ſome Diſeaſe, which will be long and languiſhing.

XVI. If any Line of the Wriſt aſcends up to the Palm and Hollow of the Hand, thro' the Line of Life, and it be red, it ſhews Weakneſs of Body, Debility of Underſtanding, and one that poſſibly may be a Cuckold.

XVII. If many Lines ſpread themſelves abundantly on the Wriſt, and end towards the Mount of *Luna*, it ſhews Voyages by Sea and Land, long Expeditions, perpetual Travelling, and a Vagabond-kind of Life.

XVIII. If the Lines of the Wriſt lie ſcattering and ſpread abroad, ſo as they touch not one another, but crookedly paſs divers ways, they ſignify great Ingenuity, much

much Curioſity, great Thoughts, high Courage, and one aiming only at high things.

XIX. If among the Lines of the Wriſt there is one which thwarts or croſſes them, and aſcends thro' the Plain of *Mars*, even to the *Mons Solis*, it ſhews unexpected Honours and Riches, and which will come ſuddenly, as alſo the Favour of ſome King, Prince or great Man.

XX. If the Lines of the Wriſt are double towards the *Mons Lunæ*, and if one Line aſcends towards the Stomach Line, and be uneven, it ſhews Tribulations and great Adverſities, being Cheated, and danger of many Encounters or of Aſſaſſination.

XXI. If on a Womans Hand there be a Triangle near the Mount of *Luna*, and beginning at the Lines of the Wriſt, it ſhews Lewdneſs, one who is Corrupt even from her tender Years, and ſhall be given to all ſorts of unclean Actions in the flower of her Age, and be an infamous and common Whore.

XXII. If Croſſes be on the Wriſt of a Woman, it ſhews one Shame-fac'd and Chaſt; and if there is one in the middle, looking towards the Plain of *Mars*, ſhe will be a Widow either by or before 30 Years old, and be Religious withal.

XXIII. If a crooked Line (like a Bow) traverſes the Lines of the Wriſt, it ſhews a ſervile Perſon; if there be two ſuch crooked Lines, it ſhews untimely Death, or by the hand of Juſtice.

XXIV. If the Wriſt Lines be red and pure, they ſhew a Martial Perſon, and one who ſhall be fortunate and honourable in Wars.

XXV. If the Wriſt Lines be in manner of a Chain, eſpecially the firſt, it ſhews an Unfortunate and Laborous Life; yet at length, by much Labour, he ſhall get Wealth and Riches.

XXVI. A long Wriſt, without Interſections, ſignifies Strength of the Habit of the Body, and a Conſtancy of Mind.

XXVII. If the Wriſt is ſhort, cut and diſſected, it ſhews a weak Habit of Body, and Dejectedneſs of Mind.

XXVIII. If the Lines of the Wriſt look towards thoſe of *Saturnia*, they foreſhew one Vain-glorious and a Liar.

XXIX. If the Branches of the Wriſt Lines aſcend towards the Mount of *Jupiter*, they ſignify Honours, Dignities and Riches.

XXX. If thoſe Branches aſcend between the *Mons Jovis* and *Mons Saturni*, the Perſon ſhall be Wounded in the Head; and if a Woman, ſhe will Die in Childbed: but if they aſcend to the *Mons Saturni*, they ſhew Poverty and Diſcontent.

XXXI. If there be Croſſes or Stars in theſe Lines, they demonſtrate Tranquility of Life in old Age.

XXXII. If thoſe Branches aſcend to the *Mons Solis*, they ſignify Honour, Glory and Greatneſs.

XXXIII. If thoſe Branches look towards the *Mons Veneris*, or make a Triangle, they ſhew Fornication, Incaſt and Adultery.

XXXIV. If thoſe Branches look towards the Mount of *Mercury*, it ſignifies much Good by Trade, Arts and Sciences.

XXXV. If they look towards the Mount of *Luna*, they point out Peregrinations, Travelling about the World, much Buſineſs and Popularity.

XXXVI. If thoſe Branches tend towards the *Hepatick* Line, they ſignify Integrity, Juſtice, good Nature, and long Life.

CHAP. XI.

Of the Saturnia, *or Line of* Saturn.

I. THis Line is that which aſcends from the *Reſtricta* through the middle of the *Vola*, to the *Mons Saturni*; which Line, if it be cut or parted, is called *Via Combuſta*.

II. This being full and extended to the *Mons Saturni*, ſhews a Man of profound Cogitations, of great Wiſdom, and an admirable Counſellor in all great Actions.

III. If it be combuſt, it is an evil Sign, foreſhewing many Misfortunes and Poverty in one part of Life.

IV. A Line drawn from the *Vital* through the *Epatica* to the *Mons Saturni*, making an Angle with the *Li-*

nea

nia Saturnia, foreſhews Impriſonment and Captivity, and many Misfortunes.

V. The *Saturnia* bending backwards in *Cavea Martis*, towards the *Ferient*, the ſame.

VI. This Line filled with unuſual and inauſpicious Characters, ſhews Unhappineſs and Diſaſters.

VII. A groſs Line running from the Interval of the *Mons Jovis* to the *Menſal*, and breaking or cutting of it, ſhews Diſeaſes or Wounds in the Belly or parts adjacent.

VIII. The *Saturnia* begins at the bottom of the Palm, croſſes the Table Line, and ends upon or under the *Mons Saturni*: in ſome it is forked upon the Mount; others have it double in two parallel Lines; and in ſome it paſſes the *Mons Saturni*, reaching to the third Ligament of the Finger.

IX. If this Line is divided, and one part of it goes towards the Line of Life, it ſhews Aſſaſſination, or an unhappy or ſhameful Death, or Self-murther.

X. If the *Saturnia* goes with, or begins, or ſeparates the *Epatica*, it ſignifies Honeſty and Goodneſs, yet a great Subtilty of Spirit, one careful of his own Affairs, and Fortunate.

XI. If it comes to the Brawn of the Hand, and ſo goes to the *Mons Saturni*, it ſhews Afflictions, Impriſonment, Tribulation and Slavery.

XII. If it is fair and entire, it ſhews Health, with much Happineſs and Tranquility: and when it is ſo ſituated in the middle of the Finger, it ſhews Counſels, Prudence, Secrets, Felicity and good Fortune.

XIII. If it deſcends from the middle of the Finger to the Brawn of the Hand or *Hypothenar*, and divides it, ſignifies Priſons, Tribulations, Afflictions, Slavery, and particularly Gally Slavery.

XIV. If it is forked in the Extremities, and paſſes the *Hepatica* or Natural Line, it ſhews Candor and Sincerity, Prudence and Subtilty, good Fortune in Agriculture and Husbandry.

XV. If it goes towards the Line of Life, deſcending thro' the middle of the middle Finger, cutting the Mount of *Saturn*, it ſignifies Impriſonment, Grief, Affliction, Slavery, and an unhappy Death.

XVI. If this Line is wanting, or is winding, and that at one of the Angles thereof there is a Star, it ſignifies loſs of Goods, Poverty, Shame, Contempt, Impriſonment and great Calamities.

CHAP. XII.

Of the Linea Solaris, *or* Stomachica.

I. THis Line takes its beginning out of the Line of Fortune, and aſcends, dividing the *Mons Solis*, ſtraight to the Ring Finger, which is *Digitus Solis*.

II. In ſome (ariſing from the bottom of the Line of Life, or near the *Reſtricta*) it aſcends even to the third Ligament of the *Digitus Solis*, and is moſt commonly branched, as having Lines in an equal greatneſs.

III. If the *Linea Solaris* is entire and fair, it ſhews Favour, Reſpect, Greatneſs, Riches, Honours and Dignities.

IV. If it is diſſected or cut, and unequal, it denotes loſs of Goods and Eſtate, Poverty, Croſſes, Contempt, Diſgrace, Baſeneſs, Envy, Slavery, and much ill Fortune.

V. If this Line is cut by the *Cingulum Veneris*, whether in the Right or Left Hand, it prenotes Croſſes and Misfortunes to happen by the means of Women, Filthyneſs, Diſhoneſty, Wantonneſs, Fornication, Whoredom and Adultery.

VI. If it is apparent and double, it ſhews one attaining to high Offices and Dignities, (*quoad capax*) and that he ſhall meet with ſuch as ſhall envy him; yet he ſhall attain the Favour of Kings, Princes and great Men, who ſhall raiſe him to the higheſt degree of Glory.

VII. If the *Linea Solaris* is croſſed by any Lines, ſo many Lines as there are, ſo many ſhall there be which ſhall envy his Preferment and Dignities; and thoſe Enemies or envious Perſons ſhall do all that lies in them to prejudice him.

VIII. But if this Line is apparent and double, notwithſtanding thoſe many croſs Lines, thoſe Enemies and envious

envious People ſhall never hurt him, but he ſhall overcome them; and the greater the Envy of his Adverſaries is, ſo much the more ſhall he advance in Honours, Dignities and Wealth.

IX. If it is clear and ſomewhat ruddy, till it comes to the Table Line, it ſignifies Offices of Judicature, acquired by Prudence, Knowledge, and a genteel Converſation; but if it is pale, it ſignifies the contrary, and weakneſs of Judgment.

X. When this Line is wholly wanting in one that takes not much Pains, it ſhews one who will be of no great Dignities or Honours, but continue in a low or mean Condition, unleſs other great Significations help and ſhew the contrary.

CHAP. XIII.

Of the Girdle of Venus.

I. *Cingulum Veneris*, or the Girdle of *Venus*, is a circular Line, or a Piece or Segment of a Circle, drawn from the Interval or Space between the *Mons Jovis & Saturni*, and ending in the Interval or Space between the *Mons Solis & Mercurii*.

II. Or, it is a piece of a Circle, which begins between the fore Finger and middle Finger, and goes to, and ends between the Ring Finger and little Finger, including in its Circuit the two Mounts of *Saturn* and *Sol*.

III. This *Cingulum Veneris* ſhews Intemperance and Luſt in both Sexes, a baſe and beſtial Life, a filthy *Sodomite*, who abuſes himſelf both with Mankind and with Beaſts.

IV. By reaſon that this Line is not often found in many Hands, ſcarcely one in twenty having it, therefore the ancient Maſters of this Art have given us little Account of it: but ſome of the Moderns, as *Taiſnerius* and *Tricaſſius*, have briefly ſpoken of it, and given us Rules well grounded, and ſuch as have been found to be true.

V. Where

V. Where therefore this Girdle is found, it ſignifies Fornication, one extreamly given to the Sins of the Fleſh, a monſtrous Uncleanneſs, even to Beſtiality, or Sins againſt Nature.

VI. If this *Cingulum* is on both Hands, it doubles all the former Significations, and ſhews a moſt impure Life, and *Sodomitical* Converſation.

VII. *Belot* (a learned Man) ſays, he found this true in two Men: *the one* received great Diſgraces for this Vice, but the Umbrage of Religion has yet protected him. *The other* he fore-warned of ſome vehement and extraordinary Puniſhment for it; and he was Burned by the Sentence of the Judge at *Villeprenx*: but this laſt had on this Girdle, on the right ſide of the middle Finger, a half Star, which ſignified a great Puniſhment.

VIII. If this *Cingulum* is diſſected or cut on the part of the *Digitus Solaris*, it ſhews loſs of Goods, by reaſon of ſome vile Filthineſs, as Adultery.

IX. If theſe Cuttings are under the *Digitus Saturni*, or the middle Finger, it prenotes the Perſon ſhall be Aſſaſſinated for his Uncleanneſs, Whoredoms or Adultery.

X. If there are two Croſſes upon this Line, one on the ſide of the fore Finger, the other on the ſide of the little Finger, or towards it; they ſignify that Virtue will overcome this Vice; and that Piety and the fear of God ſhall overcome theſe Vicious Inclinations.

XI. Says a Maſter in this Art, *Si igitur apparet in hominibus* Cingulum Veneris, *hominem ſalacem, libidinoſum, & inſigniter prurientem, ſordidum præterea, & in Congreſſu Venereo, & abominabilem denotat.* This is to be underſtood of both Sexes, but chiefly of the Female.

XII. Indeed, whoever has this Line, will be no Enemy to the other Sex, but will certainly exceed the Limits of Honeſty, and be given to Whoring, Inceſt, Sodomy, Beaſtiality, Chambering, and all other diſhoneſt Actions.

CHAP.

CHAP. XIV.

Of the Via Lactea, *or Milky Way.*

I. FRom the *Linea Vitalis*, near the Wriſt, certain ſmall Diviſions or Lines do take their beginning, ſometimes to the number of five or ſix, which Lines advance towards *Mons Lunæ*, or Mount of the Moon; and theſe are they which we call *Via Lactea*, or the Milky Way,

II. If this *Via Lactea* appears not much in the Hand of a Man, it is a ſign of Sickneſs, Head-achs, Defluxions, Catarrhs, Gouts, *&c.*

III. If it is full, compleat, and the Lines well proportioned, it ſhews Ingenuity, Favour of Women, and happy Voyages.

IV. If the *Via Lactea* is cut or diſſected by other Lines, it ſhews Falſhood, Deceit, Meanneſs of Spirit, Unhappineſs, Poverty and Want.

V. If it is unequally cut, it ſhews weakneſs of Underſtanding, Dulneſs and Slowneſs in all Actions and Undertakings.

VI. But if therein there appears Croſſes in a good form, it ſignifies that the Perſon ſhall be Religious, and very much love Solitude, or be of a Melancholick Humor, or Lunatick and Craſed in his Brain, and ſo perſwade himſelf that he ſees Viſions, Angels, Phantaſms, and a thouſand other Chimera's, which form themſelves in his diſturbed Imagination.

VII. If this *Way* is entire, and many of its Lines parallel and proportioned, it ſhews good Fortune both by Land and Sea, in Trading and Commerce, that he ſhall have Prudence and Underſtanding, a good Mind, and a great Memory, and that almoſt all things ſhall fall out to his great Satisfaction.

VIII. If there be on the Lines of the *Via Lactea* certain Stars, looking towards *Mons Mercurii* or the Mount of *Mercury*, they give great Wealth and Riches: and he that has ſuch Marks and Stars, will be filled with Wiſdom, Underſtanding and Prudence, and be very Happy and

and Fortunate, ſo that almoſt all things ſhall ſucceed to his Contentment.

IX. If the Lines of the *Via Lactea* bend towards the *Mons Veneris* or Mount of *Venus*, it ſhews the Perſon ſhall be beloved of the contrary Sex; and he or ſhe ſhall be one of a gentle, kind, aimable Humour, Officious, Reſpectful, and full of Complaſiance; and by Obſequiouſneſs and Flattery, ſhall inſinuate themſelves into the others Favour.

X. If the *Via Lactea* tends towards *Mons Solis* or Mount of the Sun, it ſignifies Wealth, Riches, good Fortune, Preferments, Dignities, Honour, Glory and Renown.

XI. But if towards *Mons Saturni* or the Mount of *Saturn*, it ſhews Melancholy, a diſaffected Mind, Troubles, Afflictions, Croſſes, implacable Enemies, Poverty, Want and Contempt.

XII. If ſome of the Lines tend towards *Mons Saturni*, and ſome towards *Mons Solis*, it ſhews a mixture of Riches and Poverty, Honour and Contempt, and of good and evil Fortune.

XIII. If the Lines tend directly to *Mons Lunæ*, it ſhews Popularity, Wealth, Riches and Honour, to be obtained among vulgar People.

XIV. Some Authors deſcribe the *Via Lactea* or Milky Way, to be a Line running upwards from the *Reſtricta* thro' the *Feriens* or *Mons Lunæ*, beyond or on the outſide of the *Cephalica*.

XV. Which Line, ſay they, if it is whole, and extended to the little Finger, it ſhews good Fortune both by Sea and Land, the Favour and Love of Women and great Ladies, and a great Good beyond Expectation.

XVI. But if it is ſhort, or cut, or crooked, it ſhews Unhappineſs, Poverty, Shame, Diſhonour, Contempt, Troubles, Afflictions, Croſſes, and a poor and low Eſtate.

CHAP.

CHAP. XV.

Of the Mount of Saturn.

I. THE middle Finger is called *Digitus Saturni*, and from thence the Mount or Swelling which is under it, is called *Mons Saturni*; which Mount is oftentimes environed by many other Lines: from the Joynts of the ſaid Finger, and from the Finger it ſelf and the Lines we find on the ſaid Mount, we draw the Judgments following.

II. The firſt Joynt of the middle Finger is repreſented by *Piſces* ♓, and ſignifies *February*; the ſecond ♒ *Aquarius*, and ſhews *January*; the third ♑ *Capricorn*, and prenotes *December*; becauſe the Sun goes thro' thoſe Signs, in thoſe particular Months.

III. If from the Plain of *Mars*, or lower from the Wriſt, there ariſes a Line half apparent, paſſing thro' the *Mons Saturni*, and ending in ſome one of the Joynts of the middle Finger, it ſhews ſome Impriſonment or great Affliction to happen in one of thoſe Months ſignified by that Joynt in which it ends, according to the preceeding Rule.

IV. If on the upper ſide of this Finger, *viz.* on the Nail ſide, there be Stars or Croſſes, whether on the Right or Left Hand, the Star or Stars ſignify Impriſonment for ſome Matters of State, or ſomething of great Conſequence: but a Croſs or Croſſes ſignify Death for Religion.

V. A Croſs or Croſſes does not ſignify Happineſs in all places, for it is the Opinion of the Ancients; and ſome have told us, *Crux in omnibus locis non ſemper bonitatem naturæ ſignificantis retinet, ſed interdum malitioſam qualitatem inducit*, &c. and that is the Reaſon that a Croſs or Croſſes in the aforeſaid places ſignify a publick Death or Execution, yet honourable, as being that to which Honour, Virtue and Piety oblige him.

VI. If from the ſecond to the third Joynt there are three Lines, of which two are a Croſs, it ſhews to a Woman much Infamy, as a reputed Whore, Impriſonment, Whipping, Baniſhment, and ſometimes danger of

of Death: to a Man, it ſhews great Infamy, Impriſonment, Fetters and Baniſhment.

VII. Two croſs Lines appearing on *Mons Saturni*, (after 30 Years of Age) if they be unequal, it prenotes a ſhameful Death in ſome publick place of Execution.

VIII. If an Eccleſiaſtical Perſon has thoſe Lines, they ſhew to him perpetual Impriſonment, Forfeiture of his Benefices, with Shame and Infamy, becauſe of Rapes, Inceſts, Whoredoms and Adulteries.

IX. Many Lines upon this Mount, ſhew Perjury, Neceſſity, Beggary and many Fears; alſo ſometimes Impriſonment for Debts of his own, or ſome others.

X. A Star upon the firſt Joynt of this Finger, ſhews the Perſon ſhall be Aſſaſſinated or Murthered. A *French* Author ſays, That he knew the Truth of this to his great Grief, this Event happening to a Gentleman, a good Friend of his, who having ſuch a Mark or Star; he had fore-warned him of ſuch a Danger, and he was afterwards Murthered in his own Wood, as he was one day Walking.

XI. If the *Mons Saturni* is full and manifeſt, without Wrinkles or Inciſions, it ſhews one Simple and Weak, without Craft or Deceit, yet Induſtrious in his Domeſtick Affairs, according to his Capacity of Mind and Strength of Body.

XII. If from the Table Line there comes forth a Line reaching to the *Mons Saturni*, it ſignifies great Anxiety, continual Cares and Diſquiet in providing for this Life, and that he will hazzard the being always Poor, and in Want.

XIII. If on the *Mons Saturni* there is a Line, which begins at the firſt Joynt of the *Digitus Saturni*, and that the ſaid Line is croſſed by two other Lines, like the form of a double Croſs, it denotes Impriſonment, Captivity, Slavery, Chains and Fetters: but if there is but one or a ſingle Croſs, it ſignifies the quite contrary.

XIV. A Woman having on the firſt Joynt of this Finger 5 or 6 Lines, aſcending towards the ſecond Joynt, yea if 7 or 8 Lines, it ſignifies ſo many Children, and for the moſt part Males, without any Females between; but they ſhall be generally Unfortunate and Poor, living miſerably, as if they were the Dregs of the People.

XV. Many

XV. Many and various Rimulaes, ſmall Lines or Clefts on *Mons Saturni*, ſhews one Wicked and Malicious, Fraudulent and Deceitful, but withal agitated with continual Miſeries, Inquietudes and Cares, Sorrowful, Timerous, and of an anxious and bitter Spirit, and very wilful in their Nature.

XVI. If a Line or Cleft paſs from the *Menſal* over the *Mons Saturni*, to the Root of the Finger, it ſhews one Anxious, and very much perplexed, unquiet, turmoiled and troubled with Cares, always ſtriving (as it were) againſt the Stream, and at long run is little the nearer.

XVII. Many croſs Lines on this Mount and Finger, ſhew Labours, Cares, Penury, Want and Impriſonment.

XVIII. Interſected Lines paſſing from *Mons Saturni* to *Mons Solis*, ſhews a Perſon ſlow, dull, lazy, careleſs, fooliſh, ſtupid, ſimple, timerous, doing nothing with Reaſon or Judgment: ſometimes, as it ſhews a fooliſh Mind, it ſignifies alſo Rudeneſs and Impudence.

XIX. In a Womans Hand, if more Lines and Sections paſs between the *Montes Saturni & Solis* than between the *Montes Solis & Mercurii*, if ſhe is not Barren, it ſhews ſhe will have more Males than Females.

XX. If any little Sections or Lines, coming from the principal Lines, be extended to the *Mons Saturni*, they ſhew the Perſon to be of evil Life and Converſation, Infamous, and not to be truſted.

CHAP. XVI.

Of the Mount of Jupiter.

I. THE Mount of *Jupiter* is the *Tuberculum* under the fore Finger.

II. If upon the Mount of *Jupiter* there be a Star or a double Croſs, it foreſhews Riches, Proſperity and Happineſs, one Born to noble and glorious Actions, one Honeſt, Affable, Courteous and Renowned, a generous Soul indeed, and faithful in all their Undertakings.

III. The

III. The ſame, if this Mount is adorned with a parallel Line, or a Line ſweetly drawn, between it and the *Vital*, it ſhews great Dignities, and Eſtimation with great Men.

IV. But if this Mount be vitiated, with a Character like a half Gridiron, it ſhews Unhappineſs, Calamities, Poverty, Diſgrace and Depoſition from Honours and Dignities, loſſes by Women-kind, and Diſeaſes in the Heart and Lungs.

V. The ſame, if a Line, cutting this Mount, tends to the Mount or Line of *Saturn*; this alſo threatens an Apoplexy.

VI. A Croſs, but eſpecially a clear red Star, on this Mount, is a Signal and ſure Demonſtration of a ſplendid Life, repleat with Honour and Glory, Riches and an eternal Name.

VII. The Character of ♃ *Jupiter* upon *Mons Jovis*, ſignifies great Honours and Dignities, (*quoad Capax*) according to the Degree or Rank of Extraction, and many times more.

VIII. The ſame Character upon the firſt or ſecond Joynt of the *Digitus Jovis*, ſhews great Riches and Poſſeſſions, alſo Inheritances by the Death of Kindred; but if it is in the third Joynt or Extremity of the Finger, it ſhews Law Suits, Diſpleaſure and Quarrels with his near Relations.

IX. Two equal Lines near the firſt Joynt of the *Digitus Jovis*, they ſignify one Virtuous, Generous, Noble, a Perſon of Goodneſs, Strength and Courage.

X. If in the ſame Joynt (in a Womans Hand) there be parallel Lines, they prenote many Children, but more Males than Females.

XI. A Woman having two or three Lines between the ſecond and third Joynts, being red and fair, they ſhew her to be Ingenious and Jovial, but in danger of Dying in Child-bed.

XII. A Star upon the firſt Joynt of a Womans fore Finger, ſhews her to be Bathful, Shame-fac'd, Honeſt and Chaſt.

XIII. A Star on the ſecond Joynt of the ſame Finger, ſhews her to come to great Preferment and Riches after 30 Years of Age.

XIV. A Lozenge-like Figure on the *Mons Jovis*, with a Line paſſing thro' the middle of it, ſhews Happineſs, an honeſt and virtuous Life, an honourable old Oge, full of Honour and Wealth.

XV. A Croſs or two on the *Mons Jovis*, ſhews Honour, Dignity, Authority, Favour of Kings and Princes, and a fortunate Marriage.

XVI. A Croſs near the firſt Joynt of *Digitus Jovis*, and towards the outſide, between it and the Extremity of the Life Line, ſhews Eccleſiaſtical Preferments, Honours and Dignities.

XVII. Four or five Lines between the firſt and ſecond Joynts, in form of a Gridiron, denotes Diſpleaſure or the Anger of great Ladies, or that there may be danger of loſs of Life.

XVIII. A Star on *Mons Jovis*, ſhews Diſgrace, Infamy, Deprivation of ſome Honour, Office or Dignity, thro' Folly, Careleſſneſs, or ſome Error committed: but two Stars ſignify the quite contrary.

XIX. A Line ariſing out of the Table Line, and cutting the Mount of *Jupiter*, ſhews ſudden and violent Death.

XX. If this Line ends in the firſt Joynt of *Jupiter*, it is ſignified by ♊ *Gemini*, and the ſaid violent Death will happen in *May*; if in the ſecond or middle Joynt, repreſented by ♉ *Taurus*, it will happen in *April*; if in the third or upper Joynt, in the Extremity of the Finger, repreſented by ♈ *Aries*, it will happen in *March*.

XXI. A Croſs or Star on the outſide of the *Digitus Jovis*, and a Line running from *Mons Jovis* ſhall ſtretch thro' the Hand, and extend to the Wriſt, ſhews Weakneſs, Cowardiſe, Fearfulneſs, one Covetous and Envious.

XXII. If that Line ſo found in the Hand is cut or interſected, it foreſhews Evil, Impriſonment or ſome great Puniſhment, or that he may Die in Priſon.

XXIII. A Childing Woman having three fair apparent Lines or Sections on *Mons Jovis*, or running equally along the Finger, ſhews many Children.

XXIV. If the middle Line of thoſe Lines is ſhorter than the other, and the other bigger at one end than another, and not even or well compoſed, it ſhews a Woman Immodeſt, Impudent, and without Shame.

XXV. The ſame alſo if a Semi-circle, is found there croſſing thoſe ſtraight Lines.

XXVI. A Woman having many and ſmall Tranſverſe Lines at the Root of the Finger, towards the Finger of *Saturn*, and near the Mount, ſhews ſhe ſhall have a large Poſſeſſion or Inheritance left her by the Death of Friends.

XXVII. But if ſuch croſs or tranſverſe Lines are found on, or near the ſecond Joynt, it argues one Fraudulent, Falſe, Unjuſt, Envious, and a Lyar.

XXVIII. The ſame alſo, if *Mons Jovis* is cleft, they are alſo Wrathful, Moroſe, Furious and Infamous.

XXIX. Croſſes on the Mount of *Jupiter*, ſhew encreaſe of Honor, Glory, Dignities, Riches, Wealth, Happineſs, and all other good Fortune; alſo Eccleſiaſtical Preferments and Honors.

XXX. And indeed ſuch a Croſs or Croſſes upon this Mount, are to be moſt Happy and Fortunate in all things, for Fortune ſeems to drop her Favors into their Mouths; they are Pleaſant and Eaſie, Magnanimous, and of an elevated Spirit, being ſuperior in Figure to moſt Men of the ſame Character or Profeſſion; they are Generous, Liberal, Free, ſlighting mean things, Honeſt, Noble, coveting Fame and Honor, and not without ſome Arrogance or Pride, as ſtriving after Rule and high things, yet ſtudious of Friendſhip, Loving, Gentle, Courteous, Peaceable, Wiſe, Prudent, not wanting Eloquence, excelling in Counſel, conſtant in Mind and Reſolution, growing in Wealth and Riches, and ſimple, juſt and honeſt in all things.

XXXI. *Mons Jovis* plain, ſmooth, clear and well proportioned, ſhews Honeſty of Life, and a good Nature; and by how much it is repleniſhed with ſmall obſcure Rimulaes, or Lines like Clefts, a little aſunder, at equal diſtances, ſo much the more Good, alſo Honors and Dignities from Princes and great Perſons.

XXXII. A Line ſeparating the *Index* or *Mons Jovis* from the *Mons Saturni*, if it is conſpicuous and red, it ſhews great Weakneſs in the Bowels, and Danger to a Woman in Child-bed.

XXXIII. A ſtraight or right Section running from the Root of the *Index*, and carrying it ſelf towards the Natural Line and the Supream Angle, denotes Greatneſs

and

and Magnanimity of Mind, the Care and Charge of great things; and ſhews one ſeeking after Wealth, Riches, Honor, Glory and Fame.

XXXIV. A ſmall Line from the *Menſal*, running or pointing to *Mons Jovis*, has the ſame Significations with the former: and if theſe Sections be croſſed or cut diſorderly with other ſmall Lines, they ſignify Wounds on the Head.

CHAP. XVII.

Of the Cavea Martis, *and the* Via Martis.

I. THE *Cavea Martis* is the Hollow in the middle of the *Palm*, commonly called the *Triangle* of *Mars*, made of the three principal Lines, to wit, the *Cardiaca*, *Cephalica & Epatica*.

II. The *Via* or *Linea Martis*, (called alſo the *Vital Siſter* and *Soror Martis*) is a Parallel to the Line of Life on the *Mons Veneris*.

III. *Mars* is Fortunate ſo often as the *Soror Martis* appears red, clear and ſweetly drawn, and when either Stars or Croſſes are found in his *Cavea* or *Triangle*; and thereby is ſignified Courage, Boldneſs, Magnanimity, Fortitude and Strength: the Man is Imperious, Strong, and a great Eater.

IV. But if the *Triangle* be Infortunated by evil Lines from the *Mons Veneris* or *Lunæ*, the Perſon is Litigious, Scornful, Proud, Diſdainful, Deceitful and Wicked; a Thief, Lecher, Robber, Murtherer, and ſhall have a Life wholly filled with Unhappineſs.

V. The Character of ♄ *Saturn* in the *Triangle*, ſhews a danger of falling from ſome high place.

VI. A crooked Line aſcending from the *Triangle* to the *Mons Saturni*, ſhews Impriſonment.

VII. A Line from the ſaid *Triangle* towards the *Reſtricta*, terminating under the *Mons Lunæ*, ſhews many Peregrinations, Journeys and Travels.

VIII. The *Soror Martis* augments all the Good ſignified by the *Cardiaca* or Line of Life, but particularly it

promiſes Succeſs in War, and the Love of Women.

IX. The *Cavea Martis*, or *Triangulum Martis* we have deſcribed at *Sect.* I. of this Chapter; but ſome Authors are not ſatisfied with thoſe Limitations: others ſay, That the *Plain* or *Triangle* of *Mars* is that Space only which is bounded with the *Cephalica*, *Epatica & Saturnia*: however, the *Plain* or *Cavea Martis*, taken as extended, is all that Space comprehended between the *Cardiaca*, *Cephalica & Epatica*; and this is truly the *Palm* or *Hollow of the Hand*.

X. The *Cardiaca* or Line of Life, with the *Epatica*, make the firſt, higheſt and ſupream Angle; the *Epatica* joined with the *Cephalica*, make the ſecond Angle, which in the Right Hand is called the Left Angle, and in the Left Hand the Right Angle: the *Cardiaca* towards the Wriſt, joined with the *Cephalica*, (or if that is wanting, with the *Stomachica* or *Linea Solaris*) make the third Angle, which we call the loweſt; and of theſe three Angles, with their three Sides, is the *Triangulum Martis* compoſed.

XI. If in the *Planum* or *Triangulum Martis*, the Siſter of the *Linea Vitalis* be clear, not too long nor too ſhort, it ſhews good Fortune in War, honorable Employments, Courage and Valor.

XII. If the Angles of the Triangle be equal, and the Lines well colored and ſtraight, it ſhews one of a good Nature, ſound Body and Healthy, Fortunate, of good Reputation, and a long and happy Life.

XIII. If the *Planum Martis* is hollow, and the Lines therein be oblique or crooked, it ſhews Death in Combats, Duels or Quarrels, a great Wound in the Head, Diſlocations or Fractures of Bones by falls from Horſes, Præcipices, *&c.*

XIV. If the Lines in the Angles of the Triangle are obſcure and unequal, making the Triangle irregular or out of a good form, it ſhews one Dull, Clownish, Unmannerly, Dull as an Aſs, one uncapable of deep Thoughts.

XV. When there are Stars in this *Plain*, they ſignify Want, Poverty, Miſfortunes, ſecret Enemies, danger of Aſſaſſination, by ſpeaking too freely, or dealing too plainly.

XVI. When

XVI. When the *Triangle* is ſpacious and large, it gives Riches, Magnificence, Courage, and makes one Liberal and Kind-hearted.

XVII. But if it is little and narrow, it ſhews Meanneſs and Poorneſs of Spirit, Fears, Suſpicions, Poverty, Want; and where there is a kind of fulneſs, makes one Niggardly and Avaricious.

XVIII. If in the Left Hand of a Man, at the Right Angle, looking towards the *Mons Mercurii*, if upon or near that Angle there be three little parallel Lines, they ſhew a great Vivacity of Spirit, one given to Chymiſtry, having Knowledge of profound Philoſophical Secrets, and acquainted with the great Hermetick Myſtery.

XIX. The Triangle fair and well proportioned, ſignifies all kinds of Good, a great Vivacity of Spirit, ſtrength of Underſtanding, and an unconquerable Soul.

XX. The Line of *Saturn* deſcending into this *Plain* or *Triangle*, ſhews Impriſonment, Captivity, Slavery, Misfortunes in War, falling into the Enemies hands, and great Afflictions one upon another.

XXI. The Triangle being of a good form, large, and very apparent, it ſhews Happineſs and abundance of Wealth, but with a Difficulty of preſerving it, being much ſubject to Envy.

XXII. One or more Croſſes in this *Plain*, ſhews a Warrior, and that in War he ſhall get Honor and Renown.

XXIII. But if thoſe Croſſes are towards the *Cephalica*, he will not be very Fortunate, neither in War nor otherwiſe.

XXIV. If a certain Redneſs poſſeſſes the Extremities of the Angles, it ſhews one Envious, given to evil Speaking, and a Paraſite, Sycophant or Flatterer.

XXV. When there are four Lines in the Triangle, in form of a Croſs, in the high or ſupream Angle, it ſignifies an Envious Perſon, a Detector, and one ſuſpected of Theft.

XXVI. If the Lines within the *Planum Martis* are long, beginning at the Wriſt, and going towards the Brawn of the Hand, *viz. ad Montem Lunæ*, it ſhews much Travel in a Military way, a reſtleſs Life, unſetled, and always in Dangers and Hazzards.

XXVII. If in the middle of the Triangle there are other little Triangles, or little Triangles towards the Wriſt, they ſignify Quarrels, Contentions, Strife, Duels, which may be with Danger, and ſometimes with Shame, Contempt, and loſs of Life.

XXVIII. Theſe ſmall Triangles being towards the *Menſal* or *Linea Solaris*, ſhew Victory and Honor.

XXIX. If the Right Angle made with the *Epatica & Cardiaca* is decent and well formed, it ſhews a good Underſtanding and a ſtrong Memory, one of an active and vigorous Spirit.

XXX. A Brawniness or Hardneſs in the middle of the Triangle, ſhews one Wrathful, Furious, Quarrelſome, Crafty and Violent.

XXXI. If in the *Planum Martis* the Siſter of the Line of Life is ſhort, it ſhews Misfortunes in War, Boldneſs, Deceit, Thieviſhneſs, one Unfaithful, Idle, Shameleſs, Seditious, Impatient, Vain-glorious, Fooliſh, Treacherous, a Murtherer, *&c.*

XXXII. A Star about the Right Angle of a Man's Hand, denotes him Perfidious, Deceitful, Thievish, Turbulent, a Detractor, given to Rapin and vile Courſes

XXXIII. If a Star is in the Triangle in a Womans Hand, it ſhews Impudence, a Proſtitute, an Adultereſs, whoſe End will be infamous and fatal, by way of Execution.

XXXIV. If this Star is hairy like a Comet, ſhe may poſſibly have three or four Husbands before ſhe Dies.

XXXV. If the Right Angle is little and ſharp, it ſhews one Provident, Sparing, and encreaſing Riches; but if it is obſcure and thick, or blunt, it ſhews Ignorance, Dulneſs, Stupidity, and a Slowneſs of Reſolution.

XXXVI. If the Left Angle is pointed or ſharp, it ſignifies one Loquacious, a Sophiſter, and maliciouſly Induſtrious, that takes great Pleaſure in Deceiving, and doing ſome ſmall Cheats, Villanies and Rogueries.

XXXVII. If this Triangle is quite wanting in a Man's Hand, ſo as there is no form of it, ſome of the Lines being abſent, it ſhews much Evil, one that is Deceitful and double Minded, Inconſtant, a Lyar, ſubject to much Sickneſs, and of a ſhort Life.

CHAP.

CHAP. XVIII.

Of the Mount of the Sun, *and* Via Solis.

I. THE Mount of the *Sun* is the *Tuberculum* under the Ring Finger.

II. The *Via Solis* is a right Line, running down from the Mount of *Sol* to the Triangle of *Mars*.

III. A Star or Stars upon the *Mons Solis*, ſhews one Faithful and Ingenious, and that he ſhall attain to great Honor, Glory and Dignity, be honored of Kings, Princes and great Men; one of a great and magnanimous Spirit, Wiſe, Juſt and Religious.

IV. But a Perpendicular thereon, cut or croſſed with a Line from the *Mons Saturni*, ſhews Pride and Arrogancy, a Boaſter, a poor baſe Spirit, and one that ſhall fall into irrecoverable Miſeries.

V. The *Via Solis* clear, and not broken, or cut by any ill Line, ſhews Honor in the Common-wealth, and the Favors of Kings and great Princes.

VI. But it being cut or confuſed, or hurt by any Line from either the Mount or Line of *Saturn*, it ſhews the contrary, Poverty and the Hatred of great Men.

VII. The *Mons Solis* is limited at the one end by the firſt Joynt of the Ring Finger; at the other end by the *Menſal* or Table Line: and on the other ſide by the *Mons Saturni*; and on the other ſide by the *Mons Mercurii*.

VIII. One Line only coming from the *Menſal*, towards the firſt Joynt of the *Digitus Solaris*, ſhews Riches by Succeſſion, and it ſhall happen in that Month ſignified by that Joynt in which the Line ends.

IX. The firſt Joynt is repreſented by ♍ *Virgo*, and ſignifies *Auguſt*; the ſecond Joynt is repreſented by ♌ *Leo*, and ſignifies *July*; the third Joynt or Fingers end is repreſented by ♋ *Cancer*, and ſignifies *June*.

X. If above the third Joynt, towards the end of the Finger, there be certain Lines, they ſhew Buſineſs, Neceſſity, Poverty; and that the Perſon will apply himſelf to curious Arts and hidden Secrets, and will be apt to be Vain, Fooliſh and Unprofitable.

XI. If there be certain Lines between the firſt and ſecond Joynts, if they are ſtraight and parallel, they ſhew one of good Nature, and one that by ſeveral ways and means ſhall enrich himſelf, by Trading, Labor, and dealing in Cattel.

XII. If ſome ſmall Lines begin at the Line of Fortune, and aſcend towards the firſt Joynt of the *Digitus Solis*, being parallel and not joining, they denote imaginary Happineſs and Satisfaction, and a vain aſſuming to ſome Offices and Dignities.

XIII. If ſome Lines, beginning at the firſt Joynt of this Finger, ſtretch towards the Table Line, without Interſections or Cuttings, they denote Goodneſs, Wiſdom, Prudence and Subtilty of Spirit, great Wealth and Riches, alſo Knowledge of Arts and Sciences.

XIV. If there is a Croſs or Croſſes from the ſecond to the third Joynt, they ſignify Honors, but without Riches; that the Perſon ſhall be eſteemed for ſome good Parts, but will be Unfortunate.

XV. A Croſs upon *Mons Solis*, ſhews one intollerably Covetous, and that will not enjoy the good of what he has, is afraid of Spending, but ſtrives to grow Richer and Richer.

XVI. If on the third or upper and extream Joynt, there is a Star or Croſs, it ſhews one that will be Rich by Inheritances or Legacies from his Relations; otherwiſe very Unfortunate, as if he was Born for Troubles, or to lie in Priſon.

XVII. A Woman having a Croſs upon *Mons Solis*, ſhe will grow Rich by Lewdneſs; and if Beautiful, ſhe will make her Fortunes by the Ruine of many young Men, and that ſhe will be very Cautious and Covetous: if ſhe is not Handſome, ſhe will be a Bawd, yet counterfeit Holineſs and Devotion.

XVIII. If between the firſt and ſecond Joynts there is a Croſs, on the Hand of a Woman, it ſhews her to become Rich by Marriage and Dowry, and ſhall come to Feminine Honors.

XIX. If there be ſmall crooked Lines at the firſt Joynt of this Finger, having ſeveral Sections or Cuts, they ſhew Want, Poverty, ill Temper, Vileneſs, Dulneſs of Spirit and Infamy.

XX. Lines

XX. Lines running from the *Menſal* to the root or bottom of the Ring Finger, ſhew a prudent and provident Perſon, ſo much the more if they are fair, even and well colored.

XXI. Many ſlender Lines, red and well colored, ſpreading themſelves on *Mons Solis*, ſhew one Merry, Pleaſant and Prudent; but if crooked and red, Affliction and Vexation.

XXII. If two crooked Lines run parallel from the Wriſt, towards *Mons Solis*, ending near the ſame, they ſignify moſt happy Fortune, Honors, Dignities, Felicity, Prudence, Wiſdom, Arts, Sciences, and one Generous and Virtuous; and the ſame more effectually, if they run above the firſt Joynt.

XXIII. Theſe Lines running thus, in a Womans Hand, ſhews that ſhe ſhall attain Riches and Honors by means of a Husband.

XIV. If theſe parallel Lines are found in the ſecond Joynt, the Perſon ſhall always live in Honor, and poſſeſs much Riches.

XXV. Little parallel Lines or Branchings on *Mons Solis*, ſignify the ſame as on *Mons Mercurii*, one Ingenious, of a ſharp, quick and happy Wit, skilled in univerſal Learning, but a little Affected and Proud withal, and attaining to Preferments and Dignities Spiritual and Temporal.

XXVI. It is truly obſervable, that when Lines are doubled, as Parallels, that they double the Significations of Good, and ſhew Honeſty, Sobriety and Virtue, and a comely Grace in Speaking: but they ſignify otherwiſe, if others paſs over and cut them in a Chequer faſhion.

XXVII. But if they are equal, fair, well colored, and not interſected among themſelves, it ſhews one Auſpicious and Fortunate, and that ſhall conquer and ſubdue his Enemies under his Feet.

XXVIII. If no ſuch Lines touch the Finger, nor are equally extended from the *Menſal*, but ſtretch towards the *Digitus Saturni*, they ſignify a Mutation and change of Life, according to the Alteration of the Times.

CHAP.

CHAP. XIX.

Of the Mount of Venus.

I. THE Mount of *Venus* is the *Tuberculum* of the Thumb: it begins at the Wriſt, and is encloſed by the Line of Life, which ends between the Thumb and fore Finger: all this encloſed Space, called the *Ball of the Thumb*, is this *Mons Veneris*, or Mount of *Venus*.

II. A clear Star, or Furrows that be red and tranſverſly parallel upon the *Mons Veneris*, and is much elevated, ſhews one Merry, Cheerful and Amorous; it ſhews alſo one faithful, juſt and entire, one with whom an incorrupted Tye of Friendſhip (being once made) is durable for ever: it alſo ſignifies great Fortune or Eſtate, and Subſtance by a Sweet-heart or Lover.

III. But this Mount infortunated by evil Lines, or Lines from evil places, and irregular Figures, ſhews a Letcherous Perſon, an Adulterer, a poor, baſe, ſordid Wretch, who ſhall ſpend his Subſtance on Whores.

IV. The Character of the △ *Trine* Aſpect on this Mount, ſhews a great Fortune by Marriage.

V. The Mount of *Venus* void of Lines and Inciſures, ſhews a rude, effeminate and fooliſh Perſon, and one ridiculous and unfortunate in Wedlock.

VI. If it be broken or diſſected, it ſhews Infamy and Diſgrace by Luſt and Letchery.

VII. If Inciſions, Lines or Stars are near the upper Joynt of the Thumb, they ſignify to a Woman, that ſhe ſhall be Married young, but ſhall not be very happy, but be in danger of being Killed or Murthered by her Husband.

VIII. If there is a Star near the Nail, it ſhews that a Woman will be very Jealous and Furious, and be in danger of Killing or Murthering her Husband.

IX. If Hair is upon the *Mons Veneris*, or upon the Thumb, or many Cuttings, it ſhews one Ruſtick, Uncivil, Slovenly, and of little Underſtanding.

X. A Woman having Inciſions or croſs Lines on the outſide of the Thumb, near the Nail, ſhews that ſhe is Miſchie-

Miſchievious, Subtil, Crafty, Deceitful, and one whoſe Company ought to be avoided.

XI. If the *Mons Veneris* is fair, pretty ruddy, having few Inciſions or Cuts; or if there be, and they be clear and diſtinct, they denote the Man or Woman very Amorous, Letcherous, deſirous of Coition, and given to Plays, Dancing, Muſick, and all kinds of Pleaſure.

XII. If two or three Croſſes are on the firſt Joynt of the Thumb, near the Mount of *Venus*, it ſignifies (in Women eſpecially) ſuch as are Quarrelſome and hard to pleaſe, Contentious, Diſloyal, Scoffers, great Talkers, Perfidious, and evil Speakers.

XIII. But if theſe Croſſes are near the ſecond Joynt, they denote Wiſdom, Humility, Devotion, Piety, exemplary Virtue, and an Ardent Religious Zeal.

XIV. If there are three or four Interſections or Cuttings under the firſt Joynt of the Thumb, if they are broad, they ſignify Riches in Youth, which will be by Marriage.

XV. But if theſe Interſections or Lines are above the ſaid Joynt, the ſaid Riches and Honors will happen when the Perſon is older, or in middle Age, or upon a ſecond Marriage.

XVI. And if theſe Inciſions or Cuts are nearer the ſecond Joynt than the firſt, all the ſaid Good will happen in old Age, and upon a third Marriage, which has been obſerved in many.

XVII. If in the middle of this Mount there is a Star, clear and apparent, and regularly or well formed, it ſignifies that he or ſhe ſhall be very happy and fortunate in Love, and receive the full Effects and Anſwers of all their Amours.

XVIII. If a Woman has a O Circle or *O* Oval, in the middle of the *Mons Veneris*, it ſhews her to be a Strumpet or Whore, proſtituting her Body to any one, yet never ſatisfied.

XIX. If a Woman has a Line in the upper Part or Ligament, which ſhall croſs the firſt Joynt, and come towards the Line of Life, ſhe will Periſh by or in ſome Inceſtuous, Adulterous or Whoriſh Act: this Line, it is true, denotes Riches, but they will be attended with Diſhonor and Shame, and ſhe will have a ſad and woful End.

XX. A

XX. A Man having ſuch a Line, it ſhews a violent Death by means of Women and Lewd Company; and ſome about the day of Marriage, or not long after.

XXI. If a Croſs is near the firſt Joynt of the Thumb, it ſhews Luſt, Letchery, Uncleanneſs, Fornication, Adultery, Inceſt, and all manner of lewd and abominable Actions.

XXII. If four Lines appear on *Mons Veneris*, under the firſt Joynt, running down towards the outward part, they ſhew Riches, Wealth and Honor in the firſt Age.

XXIII. Several ſmall, bright and plain Lines upon *Mons Veneris*, and reaching to the Root of the Thumb, ſhew great and long Travels thro' many and ſtrange Countries.

XXIV. Women who have a O Circle on the Mount of *Venus*, are Luxurious, Letcherous, Libidinous, Intemperate, and Inſatiable in Luſt, committing Whoredoms, Inceſt, Adultery and Sodomy.

XXV. One, two, three or more Stars being found clear, ſtrong and well proportioned upon the Mount of *Venus*, ſhews a happy and pleaſant Perſon, one of a free, generous and genteel Converſation, delighting in Mirth, Gallantry, and the Recreations of *Venus*, of a chearful Aſpect, but Modeſt, and much affecting *Venereal* Sports; alſo Muſick, Singing, Dancing and Jollity, loving good Company, with Liberality, Freedom and great Faithfulneſs, true in Friendſhip, juſt in Promiſing, kind and affectionate in Treating, hating baſe and mean Actions, delighting in doing Good, and rejoycing in their Friends Proſperity. Theſe, as they live comfortably and pleaſantly, without Anxiety, Trouble, Care or Vexation, ſo they Die in Peace and Satisfaction, leaving a ſweet Savor of Sincerity and Generoſity behind them.

CHAP. XX.

Of the Mount of Mercury.

I. THE Mount of *Mercury* is the *Tuberculum* under the little Finger, or *Digitus Mercury*, which has on

on the one ſide the Line or Mount of *Sol*; and on the other ſide the outward part of the Hand; it is bounded above by the firſt Joynt of the Finger of *Mercury*; and below by the *Menſal* Line, and the *Mons Lunæ*, or Mount of the Moon.

II. This Mount happy and fortunate with a Star or parallel Croſs, or the Character of the △ *Trine* Aſpect, ſhews Wit and Ingenuity, and makes the Perſon a great Orator, gives him Subſtance by Arts and Sciences, and the Underſtanding of ſecret Myſteries in Alchymy, Muſick, Painting, Aſtrology and Philology, and raiſes the Perſon to Dignity by means of his own Wit, Prudence and Induſtry.

III. But this Mount afflicted, or without Lines, or hurt by a Line from the Mount of *Saturn*, (cutting the Mount of *Sol*) or from the Triangle of *Mars*, ſhews a poor, low and dull Wit, a Perſon of no Audacity or Courage, a meer Coward, a Lyer, Pratler, Thief, Cheat, Traitor, and one Faithleſs, and ſometimes Melancholy, Mad or Frantick.

IV. Theſe Judgements are the more firm where the Lines and Signatures are fair, firm and clear: but if they be dull or obſcure, theſe Judgements are more dubious and intricate.

V. A Line from the *Mons Lunæ* to the *Mons Mercurii*, not cut or broken, ſhews a Man Eminent and Famous in his Trade or Profeſſion, (among the common People) let it be what it will.

VI. Lines going from the *Menſal* to the *Mons Mercurii*, are ſaid to ſignify Children; but they truly ſignify Subtilty of Spirit, a deep Underſtanding, Wiſdom and Prudence; one ſearching into Arts and Sciences, and given to Travel.

VII Lines coming from the Root of the little Finger upon this Mount, if they be crooked, they ſhew the Perſon ſhall never attain to thoſe Arts and Sciences he ſeeks after, but will be inclinable to Craft, Deceit, Falſhood, Thieving, and other vile things.

VIII. If in the ſecond Joynt there is a C, or X, or ✕, it ſhews one very Inconſtant, Credulous, ſubject to Paſſions, Learned and yet a Fool, or no wiſe Man.

IX. The Mount of a decent height, well colored and proportioned, ſignifies Conſtancy and Perſeverance, and

one

one who has baniſhed fooliſh Love from him, Chaſt, Virtuous, and a Lover of Sciences.

X. If in the third Joynt of this Finger there is a Star or Croſs, it ſhews Poverty infallibly, tho' the Perſon has Learning, Arts and Sciences; that he will be in danger of being Deceived and Robbed, and himſelf ſhall be ſubject to Theft and Deceit.

XI. If in the firſt Joynt of this Finger there is the Character of ♃ *Jupiter*, it ſhews one Vain and Arrogant, from the little Knowledge he has, which conſiſts more in Pretence than Reality; and he may think himſelf Eloquent or a great Rhetorician.

XII. If this Mount is half filled with Lines, which are unlike and unequal, but ſtraight, it ſhews one of a docible Nature, Faithful, not given to Lying, a Hater of Superſtitious and External Ceremonies, as believing nothing in them; one Fortunate, but not deeply Learned in Arts and Sciences.

XIII. If in either of the Joynts there is a Croſs, it ſignifies one without Religion, or one of all Religions, without any great Affection to any, yet one that will not give any Worſhip to any Creature, tho' never ſo goodly or excellent.

XIV. If on this Mount there is ♈ *Aries*, it ſhews Riches acquired by Learning: if ♒ *Aquarius*, it ſhews the contrary, thro' Ignorance: if ♑ *Capricorn*, vain Knowledge and a ſhameful Death.

XV. If on this Mount there be certain Lines, which come from without the Hand, and reach directly to the *Linea Solaris*, it ſignifies one without true Knowledge, a Lyar, abuſing every Body with vain Promiſes.

XVI. If thoſe Lines are crooked, they ſhew one vile and wicked, given to Deceit and Cheating, a Thief, and ſometimes worſe.

XVII. The firſt Joynt of this Finger is repreſented by ♐ *Sagitary*, and ſignifies the Month of *November*: the ſecond Joynt is ſignified by ♏ *Scorpio*, and ſignifies the Month of *October*: the third Joynt is repreſented by ♎ *Libra*, and ſignifies the Month of *September*: and theſe Months anſwer to ſeveral times, in which things ſignified by the Signatures of thoſe ſeveral Joynts ſhall happen.

XVIII. If

XVIII. If this Mount is covered with many ſtraight Lines, of divers forms and colors, it ſhews one Docible, but a Lover of Sects, Bold, Impudent, a Whoremaſter, a Lyar, yet Hater of Superſtition, no Lover of Temples, and diſregarding Oracles, apt to all Arts, chiefly to the Mathematicks, Poetry, Philology, Philoſophy, and a Searcher into Natures Secrets; alſo learning Mechanical Arts, as Limning, Painting, Sculpture, Vamiſhing, *&c.*

XIX. If the ſame Lines are found on the firſt Joynt of the Finger, they ſhew one Rhetorical, Arrogant, Superſtitious, Proud and Wanton.

XX. If they are found on the ſecond Joynt, they ſignify a good Orator and Preacher; but if they be reverſe, it ſhews one ſubject to various Paſſions.

XXI. A ſmall graceful Line, even and well colored, ariſing from the *Menſal* Line, and extending to the Root of the little Finger, well formed, and Diametrically paſſing the Mount, denotes Freeneſs of Mind, Generoſity and Liberality.

XXII. Retorted Lines from the ſuperior part of the little Finger, in a Womans Hand, ſhews one Talkative, Inſolent and Inconſtant.

XXIII. Certain parallel Lines, more or fewer, ariſing at the *Menſal*, and reaching to the Root of the little Finger, ſo many Lines as there be, ſo many Marriages: if they are pale, they ſignify Marriages paſt; if long, well colored, fair and ſtrong, they ſignify Marriages to come.

XXIV. If any Line is recurvated or circular, and tends from the Root of the Finger to the middle of the Mount, it ſhews a Perſon of a good Wit and Capacity, a Perſon of great Hopes, and who it is poſſible may reach the height of good Fortune.

XXV. Parallel Lines ariſing from the *Menſal*, tending to the Root of the little Finger, (as at *Sect.* 23. aforegoing) if they are groſs, ſqualid and red, they ſhew one addicted to Theft, Robbing, Rape and Ruine of Mankind, and contumated with all kinds of Vices whatſoever.

CHAP.

CHAP. XXI.

Of the Mons Lunæ, *or Mount of* Luna.

I. THE *Mons Lunæ* (called alſo *Feriens à Feriendo*, the ſmiting part) is the Mount comprehended under the *Tuberculum* of *Mercury*, between the *Menſal* and *Reſtricta*.

II. The *Mons Lunæ* filled with happy Characters, (as we have before hinted) ſhews one Honeſt, Juſt and Honorable, and makes a Man Famous through a Kingdom, gives him the Praiſe of the common People, and the acquaintance of great and noble Ladies, and makes him happy in Navigation.

III. But being infortunated by evil Characters, or a *Trapezia*, or evil Lines from the Triangle of *Mars*, or Lines broken, or cut with oblique Angles, it ſhews one of a various, poor and inconſtant Life, a Beggar, a Perſon envied by almoſt all People, one Wicked, Treacherous and Deceitful, a Perſon ſubject to Travel, Captivity or Baniſhment.

IV. If the good Lines on the *Ferient* be fair and comely, they premonſtrate ſo much the more Happineſs, and in Women Fruitfulneſs: but the evil Lines pale, ſo much the more Evil.

V. *Mons Lunæ*, or the Mount of the Moon, which is called alſo *Locus Lunæ*, the Place of the Moon, and the *Hypothenar* or *Subvola*, (*pars ea manûs eſt quæ opponitur Volæ*) the Brawn or outward ſide of the Hand or Fiſt; it is that part which below is bounded by the *Reſtricta*; above is bounded by the *Menſal*; and on the one ſide by the *Cephalica*, or that part of the Triangle of *Mars*; and on the other ſide by the outward part of the Hand or Fiſt. As the Ball of the Thumb or *Mons Veneris* (*carnoſa pars manûs inter Pollicem & Lineam Vitalem*) is called *Thenar*; ſo the Brawn of the Fiſt or *Mons Lunæ* is called *Hypothenar*.

VI. If there be Stars on *Mons Lunæ*, it ſhews one Deceitful, Crafty, Treacherous, and a great Lyar: Stars in this place ſignify one Wicked, Infamous, Perfidious,

Contu-

Contumelious, a Diſſembler, and one not fit to be Converſed withal.

VII. But if there are Croſſes inſtead of Stars, the quite contrary is ſignified, one truly Religious and Devout; if there be five of them, the Perſon is always Sickly, and does not live to ſee the 30th Year.

VIII. If any one of the five Croſſes be vaniſhed, the Party is near Death, or at fartheſt is in the Year in which he ſhall Die.

IX. Lines being pale or enclining to blackneſs on *Mons Lunæ*, ſhew one Unfortunate in Travelling, Trading, Buſineſs, and almoſt in all things he undertakes or meddles withal.

X. If there is a O Circle or *O* Oval upon this Mount, it ſignifies, according to *Indagine*, the loſs of an Eye; or elſe it ſignifies ſome great Sickneſs, as the Epilepſie, Apoplexy, Palſie, Gout, Lameneſs, Convulſions, *&c.*

XI. If on the lower part of *Mons Lunæ*, near the *Reſtricta*, there is a △ Triangle, in a Womans Hand, it ſhews her given to Lewdneſs; but ſhe will be Rich in her latter Years, and abound with Wealth; for a △ is one of the happy and fortunate Characters.

XII. Fair, bold, diſtinct, well colored and well proportioned Lines upon this Mount, ſignify Happineſs and Proſperity, Riches and Pleaſures, and much Wealth, which ſhall be acquired by the common ſort of People: he ſhall alſo be fortunate in Travelling, whether at home or abroad, and have Succeſs in all things he puts his hands to.

CHAP. XXII.

Of the Menſa, *Quadrangle or Talle.*

I. THE *Menſa* or *Quadrangle* is the Interval or Space betwixt the *Menſal* and *Epatica*; the which is given or attributed to *Fortune*, from whence the Table is called the Place of *Fortune*.

II. The *Menſa* being large and broad, and repleat

with good Figures, ſhews Riches and Treaſure, one of a liberal magnanimous Spirit, and of long Life.

III. But ſmall and narrow ſhews Poverty or a ſlender and mean Fortune, a Niggard, a Coward, a pitiful, poor, fearful and mean Soul.

IV. A little Circle in the *Menſa*, ſhews a great Wit, and a profound Perſon in Arts and Sciences.

V. The *Menſa* terminating in an Angle under *Mons Jovis*, by the Concourſe of the *Menſal* and *Cardiaca*, or Vital Line, ſhews Falſhood and Treachery, and one of ſhort Life.

VI. A Croſs or Star within it, clear and of good proportion, eſpecially under the Mount of *Sol*, ſhews Honor and Dignity by means of great and noble Men, and encreaſe by noble Men: if it be the Character of ♃ *Jupiter*, it ſhews Eccleſiaſtical Preferment.

VII. The ſame Croſs or Star, being doubled or tripled, wonderfully encreaſeth the aforeſaid good Fortune; but cut or confuſed by other little Lines, the ſaid Good is much diverted, and Anxieties and Troubles threatned.

VIII. Good and equal Lines in the *Menſa*, ſhew good Fortune; evil and diſtorted, or crooked, the contrary.

IX. A Croſs or Star in the *Menſa*, over *Mons Lunæ*, ſhews Fortunacy in Travelling.

X. If there be no *Menſa*, it ſhews a cloudy and obſcure Life and Fortune.

XI. What and where the *Menſa* or *Quadrangle* is, we have already declared at *Sect.* 1. of this *Chapter*, but ſome Artiſts will confine it in a narrower Compaſs making it indeed to be the Space between the *Menſa* and *Epatica*, but will have it to ſtretch in length, only from the *Linea Saturnia* to the *Linea Solaris*; which in my Opinion is too great a Strictneſs: I rather adhere to that Limitation in the *firſt Sect.* of this *Chapter* aforegoing at leaſt when thoſe Lines appear not.

XII. It is to be noted, that upon every Line which makes the *Quadrangle* or *Menſa*, there may happen Inciſions or Cuts, from one, two, three, to ſeven, (which larger number happens but ſeldom.) In theſe caſes, the Good ſignified by thoſe Lines; ſhall be ſo many ways and it may be ſo many Months or Years, hindred, prejudiced or interrupted.

XIII.

XIII. If the Lines be ſmall, ſhort, ſhallow or faint, or difficult to be ſeen, they ſignify only Months; but if large, long, deep, bold and perſpicuous or red, they ſignify ſo many Years.

XIV. If on the Table Line, or upper ſide of the Quadrangle, there is a Star, it ſhews Courage, Faith, Truth, Juſtice, a good Conſcience, and a free Converſation: but thro' his too great Liberality and Goodneſs may fall into Poverty; but he ſhall riſe again, recover his former Wealth, and have Favor of great Men.

XV. A Star in the middle of the *Menſa* or *Quadrangle*, ſhews one Juſt, Virtuous, Merciful, and that he ſhall arrive to much Wealth, Honors and Dignities, *quoad Coax.*

XVI. If the Inciſions or Lines which make the Quadrangle, are lively and well colored, as it were ruddy, they ſhew one Wiſe, Underſtanding and Rational, Prudent, Impartial and of good Reputation, Honeſt and Juſt to all Men.

XVII. If in the *Menſa* or *Quadrangle* a Star appears upon the Line of *Saturn*, and looks towards the Mount of *Venus*, it ſhews a Man much given to Women, ſo as to become Scandalous, and to diminiſh his Fortune or Eſtate.

XVIII. If this Star is on the *Linea Solaris* or *Stomachica*, it ſignifies Diſeaſes, but that he ſhall thrive in his Trade or Buſineſs, and get much Wealth.

XIX. If the *Menſa* or *Quadrangle* is broad and well proportioned in its Quadrature, it ſhews one of Courage, Free, Generous and Liberal, aſpiring to and attaining to high Honors and Dignities, and great Wealth.

XX. If in the *Menſa* or *Quadrangle* there is one or more Croſſes, and that they are very apparent, they ſhew one Devout, Pious and Religious, and that he ſhall change his Habitation or Dwelling for Profit and Advantage.

XXI. But if theſe Croſſes are crooked or ill ſhaped, or croſſed by other Lines, they ſignify the contrary to what is ſaid in the former *Section.*

XXII. If the *Menſa* or *Quadrangle* is little and narrow, it ſignifies one of a poor Spirit, extreamly Covetous, Cruel, Furious and Unmerciful, Falſe, Deceitful, Miſ-

chievious and Quarrelsome, and in a word, one of a very evil Life and Converſation.

CHAP. XXIII.

Of the Fingers.

I. OVerthwart Lines in the uppermoſt Joynt of the *Index* or fore Finger, ſhew Inheritances; but ſuch in the middle Joynt, ſhew a Subtil Perſon.

II. Right Lines running between thoſe Joynts in the *Index*, ſhew in Women a plentiful Iſſue; in Men a nimble Tongue.

III. If they be in the firſt Joynt near *Mons Jovis*, they ſhew a pleaſant and courteous Diſpoſition, and a Man of a generous Soul.

IV. But a Woman who hath a Star in the ſame place, is Laſcivious and Whoriſh.

V. Little Gridirons in the firſt Joynt of the *Medius* or middle Finger, an unfortunate and melancholy Perſon: but equal and parallel Lines ſhew Fortune by dealing in Metals: and that a Woman ſhall have a Son, bleſt with Church Preferment.

VI. A Star there ſhews a violent Death by Drowning or Witchcraft, or the like: but a Star or Stars in the firſt Joynt of this Finger of *Saturn*, in a Womans Hand, ſhews Barrenneſs; ſo alſo if a Croſs or Croſſes be found there.

VII. A groſs Line riſing from the *Mons Saturni*, through the whole Finger to the end thereof, ſhews a meer Fool or Mad Perſon.

VIII. If the Finger of *Saturn* is plain and ſmooth, without Sections or Wrinkles, it ſhews a plain, ſimple, honeſt Man, Laborious, Diligent, and without Fraud or Deceit.

IX. In the *Annular* or Ring Finger, a Line riſing from the *Mons Solis*, ſtraight through the Joynts thereof, ſhews Honor and Glory.

X. In the firſt Joynt of the *Annular*, equal Lines ſhew Treaſure and Honor; overthwart Lines, the Ha-

tred

tred of Kings and great Men; but if interſected, their Envy ſhall be abated.

XI. In the *Auricularis* or little Finger, a Star in its firſt Joynt, near the Mount thereof, ſhews one of Ingenuity, and a good Orator.

XII. Evil Characters and obtuſe Angles, the contrary: thoſe unfortunate Signs in the firſt and ſecond Joynts, ſhew a Thief: in the laſt Joynt, one perpetually Inconſtant.

XIII. Some Authors predict the number of Wives or Husbands, by the number of little Lines in the outmoſt part of the *Mons Mercurii*; but in my Opinion thoſe things ought rather to be ſought out in the Mount of *Venus*.

XIV. And as in the Mounts good or evil Characters are Omens of good or evil Fortunes, ſo alſo on the Fingers they ſignify the ſame.

XV. The firſt Joynt near the Mount ſhews the firſt Age; the ſecond Joynt, middle Age; and the laſt Joynt, old Age: but it is our Opinion, that the Directions of the principal Significators in every Geniture, more properly demonſtrate the times in which the Good or Evil ſignified by thoſe Marks or Lines, may probably happen.

CHAP. XXIV.

Of the Thumb.

I. A Line ſurrounding the *Pollex* or Thumb, in the middle Joynt, ſhews the Perſon ſhall be Hanged.

II. A Line paſſing from the upper Joynt of the *Pollex* to the *Cardiaca* or Life Line, ſhews a violent Death, or danger by means of ſome Married Woman.

III. The firſt and ſecond Joynts free from Inciſures, ſhew a careleſs, ſlothful, idle and vain Perſon.

IV. Equal Furrows drawn under the lower Joynt, ſhew Riches, Wealth, Poſſeſſions and Inheritances.

V. Overthwart or croſs Lines, clear and long, underneath the Nail and Joynt of the Thumb, ſhew Riches and Honor.

VI. If a Line paſſes parallel to the Root of the Thumb, below it, or upon the *Mons Veneris*, it denotes the Perſon to be *Venereal* and Luſtful, and to abound in Riches; and the nearer it comes to the *Linea Vitalis*, the better and the more Good.

VII. If in the laſt Joynt of the Thumb, a little under the Nail, or near the Joynt, Lines appear bright, clear and well compoſed, they preſage Riches and Honors, good Fortune falling even as it were into their Mouths.

VIII. A Line going from the top or upper Joynt of the Thumb, running down towards the Line of Life, but cut or broken into ſeveral parts, ſhews violent Death by ſome Weapon, Duels, Quarrels, *&c.*

IX. Certain croſs Lines, broken and imperfect, and irregular Marks at the Root of the Thumb, ſhews an Ambitious, Prodigal, Boaſting, Libidinous Perſon.

X. If a Woman has in the firſt Joynt of her Thumb, under the Nail, three or four Lines, interſecting and croſſing one another, ſhe will be Wounded, and be in danger of Death by her Husband.

XI. They who under the ſecond Joynt of the Thumb have many and little Croſſes, will lead Virtuous, Good, Holy, Pious and Religious Lives.

XII. Two Lines under the ſecond Joynt, prenote a Perſon Quarrelſome, Croſs, Vexatious, Litigious, Unfaithful, Petulant, Fooliſh, Wanton and Shameleſs: the ſame alſo if Branches are found in the ſame place.

XIII. Rimulaes, Chinks, Clefts or Lines, more or leſs, circumſcribing the Thumb, near the firſt Joynt thereof, ſhews (for the moſt part) Death by Hanging.

XIV. Three or four Lines appearing equally, or croſſing under the firſt Joynt of the Thumb, ſhew Riches and Honor in Youth: but if they are above the Joynt, they give the ſame in riper Age or middle Age: but if they be found near the ſecond Joynt, in old Age.

XV. In a Woman thoſe Lines ſo appearing, ſhew her to be Falſe and Deceitful, and one Ill-conditioned.

XVI. One, two or more Stars on the firſt Joynt of the Thumb, ſhews one of a ſweet and gentle Nature, of good Conditions and Manners, Facetious, Pleaſant and Merry,

Merry, affecting and delighting in *Venus* and all ſorts of *Venereal* Sports, Paſtimes and Pleaſures.

CHAP. XXV.

The Good and Evil Lines, Marks or Characters.

I. THE good Lines, Marks or Characters, are Parallels, as ⚌ or || double or treble, and the like: Croſſes, as ✝ or x double, and the like: Stars, as the *Sextile* Aſpect ✶ or the like: Ladders ſteps and Quadrangles, as □ or ▭: the *Trine* Aſpect, as △: Angles, as the right or acute, or a Mult-angle, *&c.* the Characters of *Jupiter* and *Venus*, as ♃, ♀, and other the like a kin to theſe.

II. The unfortunate and evil Characters are deformed, irregular and uncouth Figures, broken Lines, crooked Lines, Grid rons, the Characters of ♄ *Saturn* and ♂ *Mars*: the *Oppoſition* ☍: irregular Circles, obtuſe Angles, and ſuch-like.

III. *Laſtly*, As the quantity of Lines conſidered in their length and depth; their *Quality*, in their Shape and Complexion; their *Action*, in touching or cutting other Lines; their *Paſſion*, in being touched or cut of others; and their *Place* in which they are poſited or located, ought to be obſerved; ſo alſo their time of appearing or diſappearing ought not to paſs our Cognizance.

IV. *For it is moſt certain, that ſome Lines are prolonged to certain Years of our Age, otherſome ſhortned; ſometimes they wax pale, ſometimes grow red; ſome of one ſhape quite vaniſh, while others of another ſhape riſe: now the Cauſe without doubt is the various Progreſſions of the Aphetical places in the Geniture, to their various and contingent Promiſſors, to the Influence of which, the whole Man it ſelf is ſubjugated.*

V. *And therefore it behoves the Induſtrious and Studious Ariſt, not to determine all things at firſt ſight, for no Man can attain the knowledge of all Particulars at one Inſpection; but yearly to make new Obſervations, as the Perſon encreaſes in Age.*

VI. *Moreover it is to be observed, that these Judgments be not delivered simply alone, but by being compared with the Rules delivered in* Chap. I. *aforegoing, from whence many other Prognosticks more than what we have here mentioned will arise, to the infinite Pleasure of the Artist, and Satisfaction of the curious Inquisitor.*

CHAP. XXVI.

Containing certain Chiromantical Aphorisms.

I. INcisures and Crosses upon the Mount of *Saturn*, shew some light Adversities and Diseases.

II. Two, three or more little Lines on the first Joynt of the little Finger, shew the Dominion of *Mercury*, and an acute Wit.

III. The *Mons Veneris* notably furrowed, shews Wantonness, and one that shall obtain many Loves.

IV. A large and broad *Mensa*, shews a free and liberal Soul: and if it be adorned with good Figures, an Accumulation of much Treasures and Riches.

V. The *Saturnia* only touching the *Epatica*, shews one Ingenious, and of long Life.

VI. *Mons Jovis* well adorned with good Figures, demonstrate the height of Honor.

VII. A Cross near or upon the *Ferient*, shews auspicious and profitable Journies, and Honorable.

VIII. A Cross in the *Mensa*, under the *Annular*, shews Honor, Glory and Treasure: but if any of its Lines be cut by the *Epatica*, it shews loss of Substance in old Age.

IX. Two, three or more parallel Lines upon the *Ferient*, shews many profitable and pleasant Journies.

X. Two or three parallel Lines upon the *Mons Mercurii*, enclines to all manner of Arts and Sciences, and gives a profound Wit.

XI. The *Via Solis* not hurt, shews Honors, but if it be cut or touched by other Lines, some Impediment therein: if the obstructive Line arises from the *Mons Mercurii*, by some *Mercurial* Man or Thing, or the like;

if from the *Mons Lunæ*, from ſome Woman-kind, the common People, or ſome vulgar Buſineſs: if from the *Mons Saturni*, from ſome old Man or Men, ſome worn-out Prieſt or Prophet, or Informer, or other *Saturnian* Matter: the like judge if it ariſes from other parts.

XII. Parallel Lines upon the *Mons Saturni*, falling upon and cutting the *Menſal* Line, ſhews Sickneſs, Poverty and Want in old Age.

XIII. The cutting of the *Vital*, ſhews Diſeaſes about thoſe Years which the parts of the Line cut ſignify.

XIV. If the Line cutting the *Vital* comes from the Triangle of *Mars*, it ſhews Wounds, or a burning Fever, or the *French*-Pox: if it comes from the *Saturnia*, it ſhews Melancholy, a Conſumption, or a Fall, *&c.*

XV. The *Soror Martis* very conſpicuous and eminent, ſhews Boldneſs and Courage, and one that will be fortunate and formidable in War.

XVI. An excellent good *Cephalica*, ſhews an incomparable Ingenuity.

XVII. A Croſs upon *Mons Lunæ* declares Fruitfulneſs and many Children; as alſo ſafe Delivery in Childbearing.

XVIII. The *Saturnia* riſing obliquely from the *Reſricta* to the *Mons Saturni*, ſhews Labor and Sorrow, and one of a covetous Diſpoſition.

XIX. A Line ariſing from the middle of the Hand, cutting the *Epatica*, and aſcending to the Extremity of the *Menſal*, under the *Mons Mercurii*, ſhews in the declining Age, an unfaithful Friend or Friends, from whom ſhall come Loſs and Detriment.

XX. A Croſs or Star near or upon the *Epatica*, ſhews ſome eminent Good.

XXI. As the *Mons Saturni* afflicted foreſhews Diſeaſes, ſo thoſe Diſeaſes are chiefly the Gout or a Conſumption: if the Line afflicting the *Mons Saturni* ariſes from the Triangle of *Mars*, it declares either an Hectick or the Stone.

XXII. The *Cingulum Veneris* generally ſhews Intemperance; but if it be interſected or cut, it is a poſitive Sign of Senſuality and Laſciviouſneſs; and that the Perſon ſhall ſuffer in Reputation and good Name, and not without cauſe; and oftentimes foreſhews want of Iſſue.

XXIII. The

XXIII. The Triangle of *Mars* being perfect, the *Saturnia* extended only to the touching of the *Epatica*, the *Cephalica* continued to the *Mons Mercurii*, and the *Via Lactea* very fair, are firm Arguments of one exceeding Fortunate.

XXIV. Parallel Lines drawn from the Mounts of *Saturn* and *Sol*, to the *Mons Lunæ*, ſhews encreaſe of Fortune and Subſtance in Foreign Countries, and in Travelling; as alſo from ſome eminent Lady or Ladies, Women-kind, the common People, and things *Lunar*.

XXV. The *Menſal* cutting the *Mons Jovis*, ſhews one Paſſionate, and full of Wrath: if the ſame be cut under the *Mons Saturni*, by a ſhort and thick Line, it ſhews ſome grievous Diſtemper in the Bowels and lower part of the Belly.

XXVI. The *Via Lactea*, ariſing from the *Reſtricta* and *Vital*, ſhews an old Age full of Tranquility: and ſo much the more, if the end thereof upon the *Mons Lunæ* be adorned with a Croſs or Star, or parallel Line.

XXVII. The *Epatica* enclined towards the *Reſtricta*, (thereby making a narrow Triangle) makes one not over-Wiſe, yet Covetous.

XXVIII. A Line coming from the *Vital* into the *Triangulum Martis*, making a Croſs with the *Saturnia*, ſhews Wounds and danger of Life by Thieves, and ſuch-like: the ſame Croſs ſhews Fevers alſo.

XXIX. The ſame is ſignified if the *Menſal* be conjoined with the *Epatica* by any intervening Line.

XXX. A Croſs or Star on the upper part of the *Mons Veneris*, ſhews unlawful Loves and a Letcher: this is the more confirmed if the ſaid Mount be well adorned with Furrows.

XXXI. A Siſter joined unto the *Saturnia*, confirms its Significations double.

XXXII. The *Cephalica* extended even to the *Mons Mercurii*, ſhews Eloquence, a ready Wit, and much Ingenuity.

XXXIII. If the *Via Solis* appears not in the Hand, the Favors of Princes and great Men will not be eaſily attained.

XXXIV. A Line running from the *Vital* to the *Mons Jovis*, (but eſpecially paſſing through the *Vital*) ſhews Great-

Greatneſs and Honor, and that ſometimes to come by Women-kind, or by Marriage.

XXXV. The *Menſal* projecting little Branches towards the *Ferient*, under the *Tuberculum Mercurii*, preſages Poverty.

XXXVI. A Line falling from the Intervals of the *Mons Saturni & Jovis*, threatens a dangerous Wound in the lower part of the Belly.

XXXVII. The *Vital* diſſected by a Line from the *Mons Saturni*, ſhews a dangerous *Saturnian* Diſeaſe; from the *Mons Jovis*, a Diſeaſe of his Nature; from the *Mons Solis*, a *Solar* Diſeaſe; from the *Mons Mercurii*, one Whimſical, or afflicted with a *Mercurial* Diſtemper; from the *Triangulum Martis*, a *Martial* Diſeaſe, as ſome Wound or burning Fever; from the *Mons Lunæ*, Madneſs, Dropſie, or ſome other *Lunar* Diſaffection.

XXXVIII. The *Menſal* or Line of Fortune cut by a Line from the *Mons Jovis*, ſhews Loſs or Damages by things or Perſons *Jovial*; by a Line from the *Mons Saturni* or *Linea Saturnia*, by things or Perſons *Saturnine*; by a Line from the *Mons Mercurii*, by Scriveners, Petty-Foggers, and things or Perſons *Mercurial*.

XXXIX. A Line running from the *Mons Saturni* to the *Mons Lunæ*, parallel to the *Vital*, ſhews wonderful Preferment and Dignities, and a Perſon Formidable, but not without great Envy.

XL. The *Soror Martis* running through the *Vital* to the *Mons Jovis*, ſhews the ☌ or other Aſpect of ♃ and ♂ in the Geniture.

XLI. The *Reſtricta* not broken or cut, but continued, and of a good color, argues Riches and a healthful Conſtitution of Body.

XLII. The *Cephalica* having a Siſter, confirms the Significations thereof, let them be what they will; and if the ſaid Siſter reaches to the *Epatica*, it ſhews one Crafty and Subtil, and excellent in managing of Affairs.

XLIII. Good Lines upon the *Mons Solis* being cut, ſhews Honors, but full of Troubles.

XLIV. Parallel Inciſures on the *Mons Lunæ*, tending to the place of *Mars*, ſhew long Journies.

XLV. The *Epatica* extreamly produced, argues a very long Life.

XLVI. A

XLVI. A Croſs in the utmoſt part of the *Menſa* near the *Ferient*, and another in the *Cephalica* near the *Reſtricta*, denotes a plentiful Life in old Age, and many ſucceſsful Journies.

XLVII. A Croſs in the *Cavea Martis* ſhews an Inclination to Arms and Martial Diſcipline, and ſometimes Wounds.

XLVIII. The *Saturnia* whole, and extended through the *Epatica* and *Menſal*, ſhews a happy Succeſs and Event of Actions, and one of profound Cogitations.

XLIX. A Line coming from the *Mons Jovis* to the *Mons Veneris*, (not cut by any evil Line) preſages a great Fortune by Marriage.

L. A Croſs juſt above the *Reſtricta*, between the *Mons Veneris* and the *Mons Lunæ*, ſhews Tranquility and Happineſs in old Age.

LI. The *Menſal* full of Branches, (almoſt like a Herring Bone) and they pointing towards the *Mons Jovis*, eminently declares an increaſe of Riches.

LII. The Character of ♃ *Jupiter* in the *Menſa*, under *Mons Solis*, ſhews Preferment Eccleſiaſtical.

LIII. Parallel Lines in *Triangulum Martis*, pointing towards the *Ferient*, argue Felicity and much Good.

LIV. A Croſs or Star upon the end of the *Saturnia*, near the *Reſtricta*, ſhews Uprightneſs of Mind, one Courteous and Peaceable, and obtaining a happy and pleaſant old Age.

LV. A Line from the *Vital* falling upon and cutting the *Epatica*, ſhews Shortneſs of Life, and an hot Liver.

LVI. The *Saturnia* falling upon the *Mons Saturni* to the *Mons Lunæ*, ſhews Adverſities and ſecret Enemies, and if it then turns back like a Hook towards the *Mons Mercurii*, it ſignifies Captivity or Impriſonment.

LVII. The *Cingulum Veneris* cut by Lines from the *Mons Saturni* or *Mons Solis*, denotes Diſeaſes and Hurts by Laſciviouſneſs.

LVIII. The *Via Solis* cut by the *Cingulum Veneris*, brings a Stain upon the Honor by ſome Woman-kind.

LIX. Parallel Lines from the *Mons Veneris* to the *Mons Mercurii*, ſhews a Conjunction or other Aſpect of *Venus* and *Mercury* in the Geniture, and ſignifie great Eloquence.

LX. A crooked Line falling from the *Mons Saturni* into the *Cavea Martis*, threatens a Fall from an high place or Drowning; and this ſo much the more eminently as the Line is more crooked.

Qui in manu omnium hominum ſigna poſuit, ut cognoſcent opera ejus ſinguli, Job 37. 7.

Libri Noni Finis.

POLY-

POLYGRAPHICES

LIBER DECIMUS.

Of Painting and Coloring, or Staining *Glaſs*, *Enamel* and *Gems*.

SECT. I. *Of* GLASS.

CHAP. I.

Of Salts for Glaſs Works.

I. THE Art of making Glaſs we ſhall not propoſe in this Work; but in regard ſome of the Ingredients, which go towards its Compoſition, may be of Uſe in ſome parts of the following Diſcourſe, we ſhall do our Endeavor to ſhew you the Production of ſeveral of them in this place: of which the firſt thing which is neceſſary to be known, is the proper SALT, which is uſeful for the making of Glaſs, Cryſtal, Enamel and Gems.

II. This Salt is nothing elſe but a *Sal Alkali* or Pot-Aſhes. *Alkali* is an *Arabick* word, as the Particle *Al* diſcovers; and *Kal* in that Language is *Salt*: but now, Artiſts call it by many other Names, as *Polverine* or *Pulverine*, *Rochetta* and *Soda*.

III. Theſe are all the ſame thing, and made of the ſame Matter, but do each differ in Goodneſs according to the Place the Matter comes from, and the Order or Method of making it.

IV. The

IV. The Matter of which this Salt is made, is the Herb *Kali*, called also *Soda*, *Salicornia* and *Salsola*, from its yielding a vast quantity of Salt: as also from *Alga* or *Kelp*, which is *Sea-wrack* or *Sea-weed*, called also *Sea-thongs* or *Sea-laces*.

V. The Goodness of this Herb is according to the Places of Growth it is taken from; that which grows on the Coasts and Banks of *Syria*, *Ægypt*, the *Levant*, &c. is the best: that which grows on the Coasts of *Spain*, *Italy* and *Venice* is the next best: that which grows on the Coasts of *France* is worse: but that which grows about the Mouth of the *Thames*, and other Maritime places of *England*, is of little or no worth at all.

VI. Of this *Kali* there are several sorts, most of which are good for nothing, but fly away in smoak, one of which is the *Kali Spinosum*, which is nothing fit for this Purpose at all.

VII. All sorts of Ashes which come from the *Levant* or *East* are called *Polverine*, because it is in Pouder: but that which is brought in hard Lumps, like Stone, is called *Rochetta*; and this is better than the Ashes; for these Lumps, when they are great and hard, yield a whiter and sharper Salt than the Pouder and little bits which are less.

VIII. This *Rochetta* which is made in *Syria*, *Ægypt* and the *Levant* has a great deal of care taken in its Preparation; they first of all make a *Lixivium* of the Ashes they first make, with which they sprinkle the Herbs they are to Burn, after their having dryed them; and thus they continue sprinkling them each time with new Lye, by which means they coagulate into great Lumps, and very hard, like Stones, making very sharp Ashes, from the abundance of Salt wherewith they are impreguated, by the continual Addition of the *Lixivium*.

IX. *Soda* which comes from *Ægypt* and *Spain* is made of the same Herb *Kali*: it is cut down in the midst of Summer, when it is in its full Vigor, and being dryed in the heat of the Sun, it is gathered on heaps, and burnt on Grates made of Iron, the Ashes falling thro' them into a Pit underneath, where they grow into a hard Mass, and are thence taken and laid up for Use, and called *Soda*.

X. That

X. That *Soda* which comes from *Spain* and the *Levant* is good; where, by reaſon of the heat of the Climate, *Kali* grows in great quantities, and is green all the Winter: But that *Soda* which comes from *Ægypt*, where there is never any Rain, is the ſtrongeſt, and makes the ſtrongeſt and ſharpeſt Salt.

XI. *Polverine* on the contrary has no ſuch Preparation, but the Herb is only Burnt on Iron Grates, and afterwards when they are cooled, they are gathered up, and kept in proper Veſſels for Uſe: theſe Aſhes have indeed leſs Salt than *Rochetta*; but for the quantity, it has not any the leſs Virtue and Goodneſs.

XII. To make the Salt out of *Rochetta*, *Soda* or *Polverine*; you muſt reduce them all to a fine Pouder, by beating in a Mortar: then take of theſe poudred Aſhes ℔x. Tartar calcined to whiteneſs ℔j. Water a ſufficient quantity: mix them, and boil with a moderate Fire, till the Salt is all extracted, and a third part of the Water is boiled away, often ſtirring it with a Wooden Ladle: fill the Veſſel again with Water, and continue to ſtir and boil again, till one half is conſumed.

XIII. All being cooled, put it out (Liquor and Aſhes together) into ſeveral well Glaz'd Earthen Pans, which let ſtand ſix days, that the Aſhes may ſettle, and the Lye become clear: decant this Lye clear, leaving the Aſhes behind; and letting it ſtand two days longer, it will become very clear: decant the clear Liquor again; and this continue till it is perfectly fine: otherwiſe it will become purely clear at once, if you will be at the Trouble to filter it thro' brown Paper.

XIV. This pure clear Lye, put into a proper Veſſel, and boil over a gentle Fire, to evaporate the Water, till it begins to thicken, and ſhoot into Salt, which will be in about 24 hours time, when the Salt will begin to appear white on the Surface of the Veſſel: then take a Skimmer full of holes, and take out the Salt, letting the Lye drop away from it into the Veſſel: put this Salt into the former Earthen glaz'd Pans, the better to drain the Lye from it; which put again into the former Lye, and boil it again in like manner, till you have gotten all the Salt: but as ſoon as you ſee the Salt begin to ſhoot, let the Fire be gentle; for a great Fire will cauſe it to ſtick to the bottom, and ſo burn it, which it ought not to

to do. If this Work be done in a Copper, it ought to be well lin'd with Lead or Tin, becauſe the ſharp Lye will otherwiſe eat away the Braſs or Copper, and beſides ſpoil the color of the Salt.

XV. This Salt thus drained, put them into little Wooden Fats, the better to clear it of all its moiſture; and beating of it groſly, dry it perfectly in a Furnace gently heated: being dryed, beat it to a groſs Pouder in a Mortar, and keep it in a dry Veſſel and place, free from Dr.ſt, to make Cryſtal Frit of.

XVI. We mix ſuch a proportion of the Calx of Tartar with the *Polverine*, &c. to make the greater quantity of Salt, becauſe it makes a ſtronger Attraction of the Salt out of the *Polverine* Aſhes, and alſo makes the Salt whiter too: and by this means we get 8 or 9, and ſometimes 10 pounds of Salt out of 30 pounds weight of *Polverine Levant*, without which ſuch a quantity could not be extracted; and beſides, it makes finer Cryſtal and more tranſparent. Where note, That the Tartar ought to have 5 or 6 hours Calcination, for ſo it becomes whiter and more eaſily diſſolvable in Water.

XVII. *A Salt alſo for this Purpoſe is made of Fern, which will make a very fair Cryſtal:* It grows in moſt Kingdoms of *Europe*, *Aſia* and *America*, and that in a vaſt Plenty. They uſe it in *Spain*, and the Aſhes or Salt they make of it, they call *Barilla* or *Barillia*.

XVIII. It is to be cut down when in its prime, *viz.* from the end of *May* to the middle of *June*, and in the increaſe of the Moon, becauſe then it yields more, better and whiter Salt. It muſt not be uſed when it is withered and dryed as it ſtands, for then it will yield but very little Salt, and that not good neither: but being cut down at its full growth, and dryed as *Kali*, and ſo in like-manner burnt, it yields very good Aſhes; and by the ſame Method, a very fine and good Salt.

XIX. And indeed any Herb or Plant which abounds with a good quantity of *Alcalious* Salt, will ſerve for this Purpoſe, as *Alga* or *Sea-weed*, which is one of the moſt excellent things next to *Kali*; alſo all Ruſhes, Reeds and Sedge, which grow in Marſhes, Pools and Ditches of Water, and Banks of Rivers; to which add bitter Herbs, as *Carduus Ben. Centory, Gentian, Hops, Southern-wood, Worm-wood* Marſh and Common; as alſo *Tobacco*, the

Body of the Plant and its Stalks; with all ſorts of Milky Plants, as *Dandelyon*, *Celandine*, *Sow-thiſtles*, *Spurges* or *Tithymals* of all ſorts, the *Fig-tree*, *Vine-branches*, &c.

XX. But *Leguminous* Plants abound with this Salt more than any other, as *Bean Stalks* and *Cods*, *Peaſe Straw*, &c. to which add the Fruit or Seeds, as *Beans*, *Peaſe*, *Tares*, *Lentils*, *Lupins*, &c. but the Salt from the *Stalks and Cods of Beans*, is an admirable thing for the making of *Cryſtal*.

CHAP. II.

Of making of Frit for Cryſtal.

I. TO make this *Frit*, you muſt have a great quantity of *Tarſo*, which is a Matter fuſible, and capable of being rendred white and tranſparent by force of Fire: and this Matter is either white and tranſparent Sand, or ſome ſorts of Stones: *Agricola lib.* 12. ſays white Stones when melted, are the beſt for this Purpoſe: and *Pliny* ſays, That of ſuch-like Stones they make Glaſs in *India* moſt admirably tranſparent, that nothing elſe is comparable to it.

II. The *Venetians* and *Italians* make Glaſs in the Iſle of *Muran* of a white *Flint*, which they have out of the River *Ticinus*, where there is a vaſt quantity of them: and they are found alſo in the River *Arnus*, both above and below *Florence*.

III. In *Tuſcany* they uſe a rich Sand full of Salt, which is found in the Vale of *Arnus*: alſo a hard white *Marble*, which almoſt every Body knows there, found at the foot of the Mountains of *Piſa*, *Sarvavezza*, *Maſſa* and *Carrara*; of all which they make very white *Tarſo*.

IV. *Ferrandus Imperatus lib.* 24. *cap.* 16. ſpeaks of the *Glaſs Stone* called *Quocoli*, which is almoſt like white *Marble*, but ſomething tranſparent and hard as a *Flint*, of a light green color like the *Serpentine Stone*, and having Veins like *Venice Talck*: this being put into the Fire looſes its Tranſparency, and becomes more white and

light

light, will not turn into Lime, but in length of time be converted into Glaſs.

V. And it is true, that all white and tranſparent Stones, which will not become Lime, are fit for making Glaſs: theſe, and all Fire Stones, and thoſe which will ſtrike Fire, when they are calcined and reduced to an impalpable Pouder, and ſifted thro' a very fine Sieve, will make a moſt admirable fine and pure *Cryſtal*.

VI. But the Art is, to reduce the *Tarſo* to ſuch a fine and impalpable Pouder, the Trouble of which has cauſed the Glaſs-men to give it off, and to uſe, in the place of it, pure white fine Sand, becauſe there is little or no Expence in its Preparation, it needing only waſhing clean, drying and ſifting.

VII. However, Flints have been found better and more fine, and indeed, being prepared into *Tarſo*, make a more pure ſort of *Cryſtal*; and are indeed to be choſen, if you would make counterfeit *Gems* in Perfection.

VIII. To make the *Frit*, you muſt do thus. ℞ *Tarſo* prepared, or fine white *Cryſtaline* Sand ℔xx. Salt of *Pulverine* as before prepared ℔xiij. mix well together, put them into a Furnace to be calcined, making the Fire gentle the firſt hour, and continually ſtirring it with an Iron Rake, that the Ingredients may the better incorporate.

IX. The next five hours encreaſe the Fire to a very ſtrong heat, always ſtirring the Matter with a Rake; after that time is over, (if the Fire has been hot enough) the Frit may be reduced to Lumps of the bigneſs of a Nutmeg, which in breaking will be light and white, (if it is enough) without any yellow in it.

X. If you find it yellow or yellowiſh, you muſt put it into the Furnace again, till it looſes that yellow color: now, by how much the more the Maſs is ſtirred and calcined in the Furnace, by ſo much the more will it be refined, and alſo melt the more eaſily in the Pots.

XI. This done, take it out of the Furnace, and let it cool; then lay it on Boards in a dry place, for otherwiſe the leaſt wet will diſſolve the Salts into Water, and leave nothing but the *Tarſo* behind, which of it ſelf can never be made into Glaſs; and then cover it from Duſt, for it is as white as Snow.

XII. During the time it is making, you muſt ſee whether the Proportions of the Materials are right or not: put ſome of the Frit into a Crucible, and afterwards on a clean piece of Glaſs, ſo will you ſee whether it is well made or not, by its joining together and being clear.

XIII. If it is too hard or too ſoft, you muſt either encreaſe or diminiſh the quantity of the Salt, which a little Experience and ſome Tryals will ſoon make you ſo expert, as to do it at firſt ſight.

XIV. If it is well prepared and kept in a dry place, it will keep good three or four Months, and may poſſibly grow better, and be more fit to unite together.

XV. If you make the Salt of *Pulverine* ſimple, without any Addition of calcined Tartar, it is true, that it will yield leſs Salt; but it will make a very noble Cryſtal, and full as fine as the truly natural, fit for the moſt exquiſite Uſes, as counterfeiting Gems, *&c.*

XVI. From green *Fern*, Aſhes or *Pulverine* may be made, and from thence a Salt, as before is directed, which being purified and mixed with *Tarſo* or very fine Sand, it makes a very fine *Frit*, which produces a very fair *Cryſtal*, much better than the ordinary, which will be ſtrong, and bend more than the Nature of *Cryſtal* will mit, ſo that it may be drawn into fine Threads.

XVII. With this *Frit* may be made a fine Gold color, (if it be without any mixture of Salt of Tartar) which will be incomparably fine; of which all ſorts of Veſſels may be made.

XVIII. *Frit* made alſo of fine Salt of *Pulverine*, (without mixture of any ſort of *Tartar*) will make *Cryſtal* of a glorious Golden color; but the Salt muſt be prepared and purified as is before directed: if it ſhould be made of Salt of *Pulverine* with *Tartar*, the color would be imperfect, and be wanting of its true Splendor and Beauty.

XIX. *Frit* made of *Pulverine*, makes ordinary white Glaſs: that which is made of *Levant Rochetta*, makes a very fair *Cryſtal*; and that which is made of *Barillia* of *Spain*, (being ſomewhat unctuous) makes a Glaſs not ſo white and fair, but enclining to an azure or blewiſh color.

XX. To make ordinary *Frit* of *Pulverine*, *Rochetta* and *Barillia*. ℞ *Barillia*, &c. ℔xx. *ſine* Tarſo ℔xvij. *or* xviij.

making

making the Proportion according to the goodneſs and fatneſs of the Barillia: *add to theſe of fine pure Sand* ℔ij. *or* ijſs. *ſo will you have a Frit which will yield a very white and fair Glaſs.* This *Frit* being calcined in the Furnace, pour upon it a Pail of cold Water, and ſo put it in a cold and moiſt place; after which, from time to time, ſprinkle it with a ſmall or weak Lye for two or three Months, ſo will it be as hard as a Stone, and not to be broken without a Hammer.

XXI. This *Frit* will eaſily melt, and make a very white Glaſs, almoſt like *Cryſtal*, but eaſier to work, which is cauſed from the Salt communicated to it by the Lye: if you have none of this Lye, common Water might do, altho' not ſo well.

XXII. This ſmall Lye is made from the Fœces of the ſtrong *Lixivium*, of which the Salt of *Pulverine* is made, as we have taught in *Chap.* 1. *Sect.* 12, 13, 14, *&c.* aforegoing, thus: *Fill the ſame Veſſels with fair Water boiling hot, mix them well, and let them ſtand ſo long as to extract all the remaining Salt; after which, either decant, or elſe with a Ladle take out the Water, without diſturbing the Fœces at bottom: let it ſtand to ſettle, then decant the clear and filter it, and keep it for the aforeſaid Uſe, it being pretty ſharp and full of Salt.*

CHAP. III.

Of Artificial Cryſtal.

I. *THE Preparation of* Manganeſe. Take *Manganeſe* or *Magneſia* in little pieces, put them into an Iron Ladle or Crucible, which put into a Reverberatory Fire, and when it begins to whiten, ſprinkle it with good Vinegar; afterwards beat it, and waſh it whilſt it is hot, (as you will be taught hereafter to do *Zaffer*) then dry it, reduce it into Pouder, ſift it, and keep it in a Glaſs cloſe ſtopt for Uſe. Thus is *Manganeſe* prepared.

II. This Mineral is called *Manganeſe* or *Magneſia* from its Reſemblance in color and weight to the *Mag-*

nes or *Load-ſtone:* the beſt is eaſy to break, and very ſhining: both greater and leſſer pieces of it are very full of a Rocky Matter.

III. *Virgil* ſays it gives both a blew and a green color: his Commentator ſays it may be called the *Soap* of *Glaſs*, and that it will tinge Glaſs red, purple and black: but we uſe it alſo to make *Glaſs* or *Cryſtal* purely white or colorleſs: however, it is the moſt univerſal Ingredient in all ſorts of Colors for Glaſs-works.

IV. This *Magneſia* is a kind o Load-ſtone, as *Albertus* and *Cæſalpinus* will have it; and it is thought to be the ſame kind of *Load-ſtone* of which both *Agricola* and *Pliny* treat, who ſay, That it attracts the Liquor or Tinctures of Glaſs into it ſelf, that purifies it, and of green or yellow, makes it white, and that afterwards the Fire conſumes it.

V. *Magnes* was a Name given to the *Load-ſtone* from the place where is was firſt found; it was in the Hills of *Magneſia*, a Country of *Lydia* near *Macedonia*, as *Lucretius* has it.

Quem Magneta *Vocant patrio de Nomine Graii,*
Magnetum *quia ſit Patriis in Montibus ortus.*

The *Grecians* from the Place did give it Name,
Becauſe from the *Magneſian* Hills it came.

And ſo this our Matter or Stone, being ſaid to be a Species of the *Load-ſtone*, might poſſibly obtain the Name *Magneſia*, ſince the Country called by that Name alſo produces it.

VI. *Pliny*, it is true, mentions ſeveral ſorts of *Load-ſtones*, and gives us their Differences and the Places where they grow: but this our *Magneſia*, which ſerves to tinge Glaſs, comes to us from nearer home. It is found in great abundance in *Germany*; in *Cantabria* in a ſcattred Rock; in *Italy*, and in the Mountains of *Viterba*, and in the State of *Genoa*, (which contains much Iron, and gives a black color:) but that of *Piedmont* is beſt known, and the *Venetians* hold it in ſuch eſteem, that they uſe no other, for that it gives a very fine color, takes away all Greenneſs, and in a due Proportion makes the Glaſs or *Cryſtal* white. And ſome Years ſince it has been found

in

in *England*, at *Mendip-hills* in *Somerſetſhire*, as good as any uſed at *Moran*: and wherever the *Lead Oar* Men find it, they conclude that *Lead Oar* lies under it. This being ſaid,

VII. *To make very fine* Cryſtal, *which ſhall be very white, bright, clean, diaphanous and beautiful.* Take Cryſtal *Frit*, (in *cap.* 2. *ſect.* 8. *ad* 15.) put it into a Pot in a great Furnace, putting into it by little and little, at ſome little diſtance of time, as much *Piedmont Manganeſe*, prepared as above-ſaid, as ſhall be ſufficient: all being throughly melted together, take out the Pot, and put it into a large Earthen or Wooden Veſſel full of cold Water; ſo will the Frit be ſeparated from the Sandiver, which otherwiſe will ſpoil the Cryſtal.

VIII. Put it again into a clean Pot, melt it, and caſt it again into Water; this Work repeat till the Cryſtal be ſeparated from all this kind of Salt: then let it ſtand 5 or 6 days in the Pot in the Furnace, to boil, ſtirring it as little as may be with the Iron, becauſe it is apt to diſcolor it, and make it blackiſh.

IX. Being well boiled and clear, ſee whether it has *Manganeſe* enough, which you may know by viewing it: if it is purely white, it is well; for it is the Property of *Manganeſe*, being added in a due Proportion, to take away the foul and dull green color of the Cryſtal; and to give it a bright and ſhining Whiteneſs, and to perfect it: but if it is ſtill greeniſh, you muſt add more *Manganeſe* to it, and boil it, till it is of a bright and ſhining color.

X. But you muſt add the *Manganeſe*, but by little and little, leſt in perfecting your Cryſtal you ſpoil it, by making it blackiſh, and taking away its Luſtre: there is no exact Rule for this, but you muſt perfect your Knowledge by manifold Obſervations and Tryals.

XI. Few Work-men clear the Materials by caſting the Maſs into Water; but for Eaſineſs ſake, only skim it off when it ſwims on the top, with an Iron Ladle; for which reaſon it many times does not all ſeparate, and ſo the Cryſtal or Glaſs becomes the leſs clear, diaphanous or fine.

XII. When you ſee your Cryſtal is fine and ſhining, then uſe it without delay, to make what Veſſels you deſigned it for: in this Operation your Fire muſt be very

clear, and without Smoak, that it may not foul the Mass; but it ought to be more gentle than for common Glass.

XIII. The Iron Rods also must be clean and well polished, and the Necks or Collets of the Glasses where the Irons touch, must always be kept out of the Pots of Crystal; because Iron always discolors the Mass.

XIV. *To make common Glass white and crystaline.*

Take Frit of *Pulverine*, so will you have therefrom a common white Glass; if to this Frit you add Salt of *Rochetta*, you will have a fair Crystal Glass, which is between ordinary Glass and Crystal: if again to this you had a due Proportion of *Piedmont Manganese* prepared as for Crystal, it will be very fine and crystaline.

XV. But if you would have your Glass very fine, you must always cast the Mass into Water, to bring it to Perfection; which casting into Water must be very exactly observed; for, besides its whitening, it is thereby purified, and has fewer Blisters or Bubbles: after put the Matter into the Pot, and melt it again, and then put it into Water again, repeating this Work so long, till the Glass is made very pure and fine.

XVI. Now, if you mix common Glass ℔xx. with crystaline Glass ℔xx. and with purified Salt of Tartar ℔ij. your Glass and Crystal will be extreamly fine: but you must always beware not to put the Collets of the Glass which have touched the Iron Rod into it, for thereby it will be spoiled: And this note, That the Addition of the Salt of Tartar ℔ij. ought to be when the Frit is in making, that it may the better mix with the other Ingredients.

CHAP. IV.

Colors for tinging Glass and Crystal in general.

I. THere are two principal Minerals used for the tinging of Glass, *&c. viz.* 1. *Manganese* or *Magnesia*, which gives Glass, *&c.* a whitish color, also a dark red or blackish color, according to the Proportion of it, which

which is added to the Maſs, of which and its Preparation we have largely diſcourſed in the former *Chapter.* 2. *Zaffera*, a Mineral coming from *Germany*, which is ſaid to tinge Glaſs, *&c.* blew.

II. What *Zaffer* is, Authors have hardly determined; ſome will have it to be *an Earth*, to tinge Glaſs blew: others will have it to be *a Stone:* others *a mixture* of ſeveral Minerals.

III. There are but few Authors who have treated of it, or ſo much as named it: and thoſe who do ſpeak of it, tell us not what it is, but ſpeak only by gueſs, leaving the ſubject Matter undetermined.

IV. *Cardanus de Subtilitate lib.* 5. calls it a Stone: *There is* (ſays he) *another Stone which colors Glaſs blew, which ſome call* Zaffer. And *Julius Cæſar Scaliger*, who animadverted upon that Book, and alſo wrote a Treatiſe of Glaſs, no ways reproves him for calling it ſo.

V. After the former Authors, *Cæſalpinus lib.* 2. *cap.* 55. accounts it among Stones: *There is* (ſays he) *another Stone, coloring Glaſs blew, called* Zaffer: *of which, if too much be added, it turns it from an Aſh to a Purple color: it is heavy and brittle, and melts not of it ſelf, but with Glaſs, runs like Water.*

VI. *Ferrantus Imperatus lib.* 28. *cap.* 8. ſays, that this Stone is very like the *Load-ſtone* and *Manganeſe*; but *Agricola* makes no mention of it, becauſe it is very probable it was unknown to him.

VII. *Anſelmus Boetius*, tho' he has given us a large Hiſtory of all ſorts of Stones and Gems, yet has not enumerated *Zaffer* among them, notwithſtanding it is brought from *Germany*. *Pometus* in his general Hiſtory of Drugs, makes mention of a Mineral brought from *Swat*, of a blewiſh color, which he calls *Zafer*, *Safre* or *Sapher*, which probably may be the ſame, or of the ſame kind, *for that* (ſays he) *it will tinge Glaſs blew.*

VIII. *Merret* ſays *Zaffer* is a Compound, but neither of Earth nor Stone; not mixing at all with Water, nor breaking by ſqueezing it between the Fingers; and that it is a Secret whoſe Compoſition was found out by a *German.*

IX. But ſince that Minerals can only tinge Glaſs, and no other Materials, except Metaline ones, are yet found for that Purpoſe, his Conjecture is, *that it is compoſed of*

Copper

Copper or Braſs, to which he thinks there may be ſome Addition of Sand, with a Proportion of Lapis Calaminaris: and that the blew color it gives is owing to the Braſs, as that of *Manganeſe* is to Iron.

X. The Preparation of *Zaffer.*

Merret *orders it only to be ground to a very ſmall Powder, and to be ſifted thro' a very fine Sieve or Serce. Neri* has a better Preparation, which makes Glaſs much finer. ℞ Zaffer *in the largeſt pieces, put it into Earthen Pans or Pots, and let it ſtand one day in a Furnace, then put it into an Iron Ladle, to be heat red hot in the Furnace; take it out, ſprinkle it with ſtrong Wine-Vinegar: cool it, grind it fine on a Marble Stone, waſh it with warm Water in Earthen Pans or Veſſels, letting the* Zaffer *ſettle to the bottom, and gently decanting off the Water: ſo will the Foulneſs and Impurity be ſeparated, the* Zaffer *remaining pure at the bottom, which dry and grind again, and keep it in a Veſſel cloſe ſtopt for Uſe.*

XI. The are ſeveral ways of giving Glaſs, *Golden, Amethiſt* and *Saphirine* colors, but ſome one way is more particular and finer than the reſt: as alſo to make Frit of Natural or Rock Cryſtal, which is an admirable thing: to do all theſe things, you ought to be very nice in the Proportion, Time, Circumſtances and Accidents of the Materials; for erring in any one of theſe, the whole will be ſpoiled and undone, and different colors than you propoſed will reſult.

XII. *A Milk-white Color.*

℞ good Cryſtal Frit ℔ij. Calces of Lead and Tin *ana* ℔j. *Manganeſe* prepared ʒſs. all being poudred and mixed together, put the Maſs into a Pot heated in the Furnace, and let it ſtand 12 hours: mix it well, and make an Aſſay: if the color is not good, add more of the Calces of Lead and Tin, and mix well, after 8 hours it will be as white as Milk, and fit to work.

XIII. *Another fairer White.*

℞ Pure Cryſtal Frit ℔xx. Calx of Tin ℔iij. *Manganeſe* prepared ʒij. all being poudred, mix them, and put them into a Pot heated in the Furnace for 8 days: then caſt the Maſs into Water, dry it, and melt it again in the ſame Pot: if it is tranſparent, you muſt add to it more Calx of Tin ʒxij. mixing it well with the melted Metal: after 24 hours it will be as white as Snow, and fit to work.

XIV. *A*

XIV. *A noble Black.*

℞ Pieces of Glaſs of ſeveral colors ℔xx. to which add a little leſs than half the quantity of *Manganeſe* as *Zaffer*: put the whole into a Pot in the Furnace: let it ſtand till it is purified, and 'twill be as black as Velvet.

XV. *Another fairer Velvet Black.*

℞ Cryſtal Frit in pouder ℔xx. Calces of Lead and Tin *ana* ℔ij. mix all well together, and put them into a Pot heated in the Furnace: when the Maſs is well melted and purified, add Steel calcined and poudred ℥iij. Scales of Iron from the Smiths Forge poudred ℥ij. which mix well with the Steel, and caſt them in, that the Glaſs may not riſe, but may be the better incorporated: let all reſt 12 hours; during which time, ſtir them ſometimes, and ſo it will be fit to work, and of a moſt excellent color.

XVI. *Another Black fairer than the former.*

℞ Of *Rochetta* Frit ℔xx. Tartar ℥vj ſs. *Manganeſe* prepared ʒx. mix all together, put them into a Pot leiſurely heat in the Furnace, that the Matter may not riſe too much: let it melt, and purify for about 4 days: mix all well, caſt them into Water, the better to purify them; then melt again: ſo will you have a Black of extraordinary Beauty, and much ſurpaſſing the former, fit to be wrought.

XVII. *A Marble Color.*

℞ Cryſtal Frit and work it as ſoon as it is melted, before it is purified, ſo will you have a very fair Marble color.

XVIII. *A Gold Yellow.*

℞ Cryſtal Frit made with Tartar, and not with Sand, parts ij. Frit made two thirds of *Tarſo*, and one third of fine *Pulverine* Salt, part j. mix them well. ℞ of this Mixture of Frit ℔xxv. Tartar purified and ſearced fine, *Piedmont Manganeſe* prepared, of each ℥iv. mix all together very well, (for you are not to caſt them on melted Glaſs, as in other Colors:) put this Mixture by little and little into a Pot, put them into a Furnace, letting them ſtand 4 days, but in an ordinary Fire, for fear of riſing and running over: when the Maſs is well purified, it is fit for working into Veſſels, which will be of a fair color.

XIX. *A*

XIX. *A fairer Gold Yellow.*

If you would have it fairer, you muſt put to the former Mixture more of the Pouder, and it will be a delicate Golden color. If you would have the color yet finer, ℞ Cryſtal Frit made of *Pulverine* of *Rochetta*, and the Gold color will yet be more excellent.

XX. *A Granat Color.*

℞ Cryſtal Frit, *Rochetta* Frit *ana* ℔xij ſs. *Piedmont Manganeſe* prepared ʒiv. *Zaffer* prepared ʒij. mix all well together, put them by little and little into a Pot made red hot in the Furnace, becauſe the Glaſs is apt to riſe and run over: after 4 days the Glaſs will be well tinged and purified, and fit to be wrought. You may make the color deeper or paler as you pleaſe, according to the Proportion of Pouder you put in.

XXI. *A Peach Color.*

℞ Glaſs prepared and tinged of a Milk white, melt it well, and add to it ſome *Manganeſe* prepared by little and little, ſtirring it well in, each time, till the color is as fine and perfect as you deſire it. Note, you muſt work the Glaſs in time, otherwiſe the color will be loſt.

XXII. *A Saphir Color.*

℞ Frit of *Rochetta* ℔xxv. *Zaffer* prepared ʒiv. *Manganeſe* prepared ʒij. mix all well together, put the whole into a Pot in the Furnace, letting it ſtand till it is melted and purified: the longer it remains on the Fire, the finer it becomes, having a care to take it out from time to time. Try the color, and either encreaſe or diminiſh it as you think fit.

XXIII. *A finer Saphir Color.*

℞ Choice Cryſtal Frit ℔xxv. *Zaffer* prepared ʒiv. *Manganeſe* prepared ʒij. mix and do as in the former, and it will be far more glorious.

XXIV. *Lapis Lazuli Color.*

You muſt uſe the Matter in *Sect.* 13. aforegoing, and when it is in fuſion in the Pot, add to it by little and little blew Enamel in Pouder, which Painters uſe, mixing it well each time; try it, to ſee if it is right; when it is ſo, let it ſtand 2 hours; ſtir it well, and make another Tryal: if the color is perfect, let it ſtand 10 hours, and mix it again: if it changes not color, it is perfect, and then you may work it: in working of it, caſt in a little Leaf Gold, and it will immediately ſtop the riſing of the Metals,

Metal, (as Sugar will do in boiling Oil) and make it look very like the Natural Stone.

XXV. *An Amethiſt Color.*

℞ *Piedmont Manganeſe* prepared ℔ij. *Zaffer* prepared ʒiij. mix them well together. ℞ Cryſtal Frit well made with *Tarſo* (not Sand) ℔xx. of the foregoing Pouder ʒxx. mix them well together before you put them into the Pot: put the Pot into the Furnace, and put in your Matter by little and little, leſt the Violence of the Pouder break the Pot: let it ſtand and purify 4 days, ſo will it be of a beautiful and glorious Amethiſt or Violet color, proceeding from red and blew. You may either encreaſe or diminiſh the color, according as you make the Proportions of the Frit and Pouder.

XXVI. *A Pearl Color.*

℞ Frit of Natural Cryſtal well purified *q. ſ.* caſt into it at ſeveral times Tartar calcined purely white, mixing all well each time: continue this, and make Tryals, till the Glaſs or Cryſtal becomes of a Pearl color: there is no ſet Rule in this caſe, but Experience by Tryals muſt guide you. When the color is perfect, you muſt preſently work it, and it will be extreamly beautiful; otherwiſe it will ſoon be loſt.

XXVII. *A deep Red.*

℞ Cryſtal Frit ℔xx. calcined Tin ℔ij. pieces of white Glaſs ℔j. mix all well together, and put it into a Pot in a Furnace, that it may purify: being well melted, caſt in calcined Steel in fine Pouder, Scales of Iron from the Anvil in fine Pouder, of each ʒj. mixed together: ſtir well the Glaſs with an Iron Stirrer as you are putting in the Pouder, to hinder it from riſing too much. Put not in too much of the Pouder, leſt you make the Glaſs black, which ought to be clear and ſhining, and an obſcure yellow: then take Copper calcined and prepared (as hereafter in *chap.* 7.) ℥vj. caſt it into the melted Maſs, often ſtirring it for 3 or 4 times, and it will be as red as Blood. The color being perfect, preſently work it, for fear it ſhould become black. If your color ſhould chance to be loſt, you muſt add more Scales of Iron, and it will return. This Work will be tedious and tireſome, but that you muſt bear withal, if you intend this color.

XXVIII. *A Viperine Color.*

℞ Rock Cryſtal of a good Water, crude *Antimony*, *Orpiment*,

Orpiment, ana ʒij. *Sal Armoniack* ʒj. make the three laſt into Pouder: put the bits of Cryſtal into a good Crucible, and ſtratify with the Pouder, laying them *ſtratum ſuper ſtratum:* this done, cover the Crucible with another Crucible, having a hole bored thro' its bottom; lute them well together: and when dry, put them into the middle of the Coals in a Furnace, gradually kindle them, that the Crucibles may grow hot by degrees: avoid the Smoak, becauſe it is dangerous, and you ought to go out of the Laboratory, unleſs the Furnace is in a Chimney which has a good Draught: let the Fire kindle of it ſelf, and at length let the Crucible grow cold; then take out the pieces of Cryſtal which lye on the top, and they will have a Ruby color, marked with fine Spots; and thoſe at bottom will have a green Viper color. Separate the other pieces from them which will be of other colors, and poliſh them at the Wheel like other Stones: theſe being ſet with Foils in Gold, will be of a very agreeable color.

XXIX. *To Calcine Rock Cryſtal for an extraordinary Frit.*

℞ Rock Cryſtal, heat it red hot in a Crucible covered cloſe, then quench it in Water, and reiterate this 8 times: dry it well, and on a *Porphyry* Stone grind it to an impalpable Pouder: ℞ of this Pouder p. ij. Salt of *Rochetta* p. j. make a Frit as is taught in *cap.* 2. *ſect.* 8. *&c.* then put this Frit into a Pot well heated in the Furnace, and when melted, add to it a fit Proportion of *Manganeſe* prepared by *cap.* 3. *ſect.* 1. afterwards caſt it into Water to purity, by *cap.* 3. *ſect.* 7, 8, 11. and purify it very well at the Fire before you work it. This will ſurpaſs in Beauty all that we have yet ſpoken of.

XXX. *To make Rock Cryſtal of the Color of a* Ruby, Topaz, Opal, *and other Gems.*

Take ſmall bits of Rock Cryſtal, which put into a Crucible, laying them *S. S. S. ſtratum ſuper ſtratum*, with this following Pouder. ℞ Gold colored *Orpiment*, white *Arſenick, ana* ʒiv. crude *Antimony, Sal Armoniack, ana* ʒij. reduce each apart into Pouder, (the 3 firſt by Levigation with Water, the Salt by beating in a Mortar) dry the former, and mix all well together. The ſmall bits of Cryſtal put at bottom of the Crucible, the greater at top, cover it with another Crucible, having a hole bored

bored in its bottom, lute them together, and do in all reſpects as at *ſect.* 28. aforegoing: be ſure that no Air gets in at the Juncture of the Crucibles, for then the Cryſtal will break or flaw, and be good for nothing: when cold take the bits out, and Poliſh them at the Wheel, ſo will they be fair, hard, and like Oriental Stones.

XXXI. *To Work Glaſs.*

Your Metal being in Fuſion in the Pots, take your hollow blowing Iron, dip it in, and take out what you pleaſe, (which will be viſcous and clammy) roul it too and fro upon a Marble, the more firmly to unite the parts: blow gently thro' the hollow Iron, which will raiſe the Metal as blowing does a Bladder: but when you take in Breath, as you muſt often do when the Veſſel is large, take care to take the Iron out of your Mouth, for fear of drawing in the heat, and apply the end thereof to your Cheek: after this you muſt take the Iron and whirl it ſeveral times about your Head, to lengthen and cool the Glaſs; and if needful, you muſt flat the bottom, by preſſing it on a Marble: then giving it to another Work-man, he muſt gently break the Collet, or that part of the Glaſs which ſticks to the blowing Iron, and caſt it by among common Glaſs: then this Glaſs muſt be taken up, by ſticking it to another Iron Rod, to heat or ſcald it at the mouth of the working hole: after which, with a *Ponteglo*, you muſt make it into ſome form of Glaſs: with the *Paſſago* you muſt make the Bowl of the Glaſs; and with the *Procello* you muſt widen it, and make it more hollow and capacious.

XXXII. Then making it plain and even with Shears, cut off what is ſuperfluous; and with blowing, preſſing, ſcalding, amplifying and cutting, form it into what ſhape you pleaſe, putting on Feet or Bottoms when need requires; and with the *Spiei* put on Marblings or Ornaments: this don, a Servant takes them away with an Iron Fork, and puts them into a ſuperior Furnace or Oven, to Anneal them, taking ſpecial care not to break them, being now very brittle.

XXXIII. And as you may thus make all ſorts of Veſſels and Figures whatſoever of Glaſs or Cryſtal, ſo being very tractable or pliable whilſt it is hot, you may mold it, poliſh it, adorn it, and joyn it together piece by

by piece, and indeed make all ſorts of Emboſſed Works, as if it were in Wax, and Paint upon it, and Ting it with any ſort of Color, inſomuch that you may imitate all ſorts of Gems and precious Stones, as in the following Chapters of this Book, we ſhall ſhew at large.

See more Colorings of Glaſs and Cryſtal in cap. 7. ſect. 18, 19, 20, 21, 22, 23, 24, 25, 26 *and* 27 *following.*

CHAP. V.

Of Colors from Lead.

I. C*Alcined Lead.*

Put the Lead into a broad Veſſel upon a Fire hot enough to melt Glaſs, and not hotter, for if it is hotter it will not calcine: when it is melted, a yellowiſh Scum will be on the top, which ſcrape together with an Iron for that purpoſe, always ſtirring and ſpreading that which is not reduced to Scum: this Scum gather together, and put it into a Furnace moderately hot, to reverberate it, ſpreading it with the Iron, and continually ſtirring it, till it becomes yellow; then ſearce it thro' a fine Sieve. That which does not go thro', put with other Lead, to calcine afreſh, and be ſure the Furnace has a juſt heat, and be not too hot. This Method will diſpatch a great quantity in a ſhort time.

II. *To make* Vitrum Saturni, *or Glaſs of Lead.*

℞ Calcined Lead ℔xx. Cryſtal or *Rochetta* Frit (according to the color you intend) ℔xvj. mix well, put them into a Pot in a Furnace, and in 10 hours time they will be well melted: which done, caſt all into Water; after which take it out and dry it: if there is any grains of Lead at bottom, caſt them away, for if they be mixt with the reſt, they will infallibly break the next Pot. The Matter being dryed, put it into the ſame Pot again; let it be in Fuſion 6 hours, then you may work it.

III. *To make* Vitrum Saturni, *another way.*

℞ Calcined Lead iij. parts, fine Sand j part; make them into Glaſs in a Furnace: alſo ℞ calcined Litharge

litharge iij. parts, calcined Flint *j.* part; melt and vitrify.

IV. *Another way to make* Vitrum Saturni.

℞ Red Lead ℔xv. Cryſtal Frit or common Frit ℔xij. mix well, and put them into a ſtrong Crucible with a ſtrong bottom, which put into two other Crucibles of like ſtrength; and with a Fire of Suppreſſion melt them together, the Matter will paſs thro' the firſt and ſecond Crucible, and in the third you will find the Glaſs of Lead deſired.

V. *Another way.*

℞ *Minium* ℔xx. fine Sand, Salt of *Pulverine, ana* ℔x. mix well, and put them into a ſtrong ſingle Crucible, in a Fire of Suppreſſion; ſo will you have good *Vitrum Saturni.* It is ſaid, that Glaſs of Lead, being infuſed in Wine, will work 4, 5 or 6 times excellently *per ſe-ceſſum.*

VI. *To Work Glaſs of Lead.*

Take the Work-man's hollow Iron he uſes to take the Metal out of the Pots with, and the *Vitrum Saturni* being in Fuſion, let it cool a little: then put in the end of the hollow Iron, and take out what quantity of the Metal you pleaſe, (which will be clammy or viſcous:) this you muſt roul too and fro upon a Marble, the more firmly to unite the parts; and work it as we have directed in *cap.* 4. *ſect.* 31, 32. But you are to note, that the Marble ought to be a very hard one, and made very clean when you uſe it, and while the Glaſs is cooling, you muſt wet the Marble with cool Water, otherwiſe the Glaſs would ſcale it, and the Marble would ſtick to it; but if the Marble is hard, this is much leſs to be feared.

VII. *To make* præcipitatus Saturni.

℞ Litharge in fine Pouder impalpable *q. ſ.* put in a glazed Earthen Veſſel over a ſtill Fire: add to it diſtilled Vinegar, ſo much as to over-top it 4 inches: mix well, and let them ſettle, till the Vinegar becomes of a Milk color: decant it gently, and affuſe freſh diſtilled Vinegar, continuing this work till it yields no more Whiteneſs: put all theſe Decantings together into a glazed Earthen Veſſel, and let it ſtand till the Lead præcipitates to the bottom: decant off the clear Vinegar; and the Milk-colored Sediment is that which is *Præcipitatus Saturni.* If it does not præcipitate

well, ſo as to leave the Vinegar very clear, put into it ſome cold Water: if that does not do, but the Vinegar is ſtill muddy, ſet all the Water and Vinegar over a gentle Fire, and evaporate to dryneſs: ſo will the ſpirituous parts of the Vinegar be left in the Sediment, which keep with the reſt of the *Præcipitatus Saturni* for uſe.

VIII. This is ſaid to be a noble Preparation of *Saturn* and tho' it is not properly the Spirit, yet it is that which contains the Spirit, and is exceeding uſeful for Glaſs Works: but it is there propoſed as a thing proper for making red Enamel, and is that which does very nobly heighten and improve that kind of Work.

IX. *As for Glaſs of Lead*, it is without doubt the fairеſt and nobleſt Glaſs of any other; for that thereby you may imitate all the colors of Oriental precious Stones: but if you work it not with care, no Pots nor Crucibles will hold it, for that it will crack them, and let it run out. In making it, you muſt always drop the Glaſs into Water when it is melted, for the leaſt live Lead remaining in it, eats out the bottoms of your Pots, and ſo makes you looſe your Matter.

X. *To make Glaſs of Lead, of a fair Emerald Color.*

℞ Cryſtal Frit poudred and ſearced ℔xx. Calx of Lead ſifted ℥xvj. mix well; put them into a Pot heated in the Furnace, and in 8 or 10 hours it will be melted: caſt it into Water, and carefully take the remaining Lead from it: the Matter dry, and put into the ſame Pot again, and in 7 or 8 hours it will be melted; reiterate this caſting of the melted Maſs into Water, and ſeparating the Lead, that the Glaſs may be cleanſed from all Fouſneſs, and become very reſplendent. Put it again into the Pot, and let it melt and purify again: when melted, put to it thrice calcined Scales of Copper in fine Pouder ℥vj. *Crocus Martis* made with Vinegar in Pouder gr. xxiv. mixt together. Put in this Pouder at 6 times always mixing well, letting almoſt 2 minutes ſpace between each time: let it reſt an hour, and ſtir it again and ſee if the color pleaſes; if ſo, let it ſtand 8 hours in Fuſion, that all may be well incorporated: ſtir again well, and let it reſt a while, that the Fæces (if any) may præcipitate, and ſo work it. It is ſcarcely to be diſtinguiſhed from a true Emerald.

XI.

XI. *A more glorious Emerald Color.*

To do this, you muſt change one Ingredient of the former Section; and inſtead of thrice calcined Scales of Copper, you muſt put the ſame quantity of the *Caput Mortuum Vitrioli Veneris*; and then proceed exactly as in the former; ſo will it be an exquiſite Emerald Green.

XII. *A Golden Color.*

℞ Good Cryſtal Frit in Pouder, Calx *Saturni* in Pouder, *ana* ℔xvj. Copper Scales thrice calcined in Pouder ℥vj. *Crocus Martis* made with Vinegar gr. xlviij. mix well, and put all into a Pot heated in a Furnace: after 12 hours caſt the Maſs into Water; ſeparate the Lead, and put the Maſs again into the ſame Pot, and purify it for 12 hours more; then ſtir it well, and ſee if the color pleaſes: if it chances to be greeniſh, add to it more *Crocus Martis*, and the Greenneſs will vaniſh; ſo will you have a noble Gold color, which will be as fine here, as it will be in Cryſtal.

XIII. *A Granat Color in* Vitro Saturni.

℞ Cryſtal Frit ℔xx. Calx of Lead ℔xvj. *Piedmont Manganeſe* prepared ℥iij. *Zaffer* prepared ℥ſs. mix all well, and put it into a Pot heated in the Furnace: after 12 hours caſt the melted Maſs into fair Water, and ſeparate the Lead: put the Matter again into the ſame Pot, and let it purify for 10 hours: mix well with the Iron, and let the Fæces præcipitate; if the color pleaſes, then work it.

XIV. *A Saphir Color in Glaſs of Lead.*

℞ Cryſtal Frit in Pouder ℔xv. Calx of Lead ſearced ℔ij. *Zaffer* prepared ℥ij. *Manganeſe* prepared gr. xxiv. mix well, and perform the Operation exactly as the former, and the color will be like the true Oriental Saphir; then work it.

XV. *A Topaz Color in Glaſs of Lead.*

℞ Cryſtal Frit in Pouder ℔xv. Calx *Saturni* in Pouder ℔x. ſearce fine, mix them well, and put them into a Pot hot in the Furnace; melt and keep them in Fuſion 8 hours: caſt the Maſs into Water, ſeparate the Lead, if any, and put the Matter again into the Pot to be melted, and caſt it by Intervals into the Water: add to this Maſs half its weight of Golden-colored Glaſs at *ſect.* 12. above, incorporate, purify well, and you will have Glaſs of an Oriental Topaz color fit to be wrought. Now,

a *Topaz* is a lighter color than an Emerald, which casts Rays of a Golden color.

XVI. *A Sky or Sea Green in Glaſs of Lead.*

℞ Cryſtal Frit ℔xvj. Calx *Saturni* ℔x. mix well, and put them into a Pot gently heated in a Furnace, and in 12 hours they will be in good Fuſion: caſt the Maſs into Water, ſeparate the Lead, and put it again into the Pot to melt: after 8 hours caſt it again into Water; ſeparate the Lead again, and it will be well purified: put it again to melt in the ſame Pot, and when it is well melted, caſt in at four diſtinct times, ℥iv. of ſmall Copper Leaves prepared as in *cap.* 7. *Zaffer* prepared ℥ij. theſe two being firſt mixed together, ſtirring the Maſs each time: 2 hours after ſtir all well again with an Iron Rod, and try if the color is good: then let it ſtand 10 hours to purify, and to incorporate, that the colors may be perfect: let it reſt a while to ſettle, and it will be fit to work.

XVII. *To make* Sulphur Saturni.

℞ *Ceruſe* or white Lead ground impalpable, affuſe thereon diſtilled Vinegar enough to make it ſupernate 4 inches; but affuſe it gently till all the Violence is gone: digeſt it on a Sand Furnace, to evaporate an eighth part away: let it cool, decant the remainder, which will be well colored and full of Salt: on the remaining *Ceruſe* affuſe freſh diſtilled Vinegar, digeſt, evaporate and decant as before; and reiterate this Work with freſh Vinegar, till no more Tincture or Sweetneſs ariſe. Put all theſe tinged Vinegars together, filter, and then over a gentle Fire evaporate to dryneſs; ſo will you have at bottom a white *Saccharum Saturni*. Take a Glaſs Matraſs well luted to the middle of the Body, put into it your *Saccharum*, and digeſt it in a gentle Sand heat for 24 hours, covering it with Sand up to the Neck, digeſt till it is as red as Cinnabar, and grind it on a fine Marble: if it is only yellow, you muſt digeſt it 24 hours longer, but with ſuch a heat as it may not melt, for then it is ſpoiled: being perfectly Red, and Levigated, put it again into a Glaſs Cucurbit; affuſe thereon diſtilled Vinegar, as before; and when deeply tinged, decant and affuſe freſh Vinegar, and continue this Work till all the Salt is diſſolved, and the Fæces ſeparated. Put all theſe Tinctures into Glaſs Veſſels, and let them ſtand to ſettle;

decant

decant the clear and filter. Put this filtred Liquor into a Glaſs body, evaporate, and you will have at bottom a very white *Saccharum*. This *Saccharum* being very dry, diſſolve in common fair Water, let it ſtand 6 days, that the Fæces may præcipitate. This Water filter, and evaporate in a Glaſs body to dryneſs over a gentle heat; ſo will you have a Salt as white as Snow, and ſweet as Sugar. Repeat this Work of diſſolving in Water, filtering and evaporating for three times; after which take the *Saccharum Saturni*, put it into a Glaſs body in a Sand Furnace over a gentle heat, where digeſt for ſeveral days, ſo will it become red as the fineſt Cinnabar, and give a Calx finer than white Starch, which is *Sulphur Saturni*. *Iſaac Hollandus*.

XVIII. This *Sulphur* (which is perfectly fine) is to be uſed inſtead of *Minium*, for making Paſts for *Chryſolites*, *Emeralds*, *Granats*, *Saphirs*, *Topazes*, *Blews*, and other colors; and it is to be uſed in the ſame Proportion as we ſhall hereafter limit, obſerving what is ſaid concerning Baking in *cap.* 13. *ſect.* 1. following. The Paſts made with this *Sulphur*, will not have that Greaſe and Yellowneſs, nor be ſo apt to be affected by the Breath as others: but you will have Stones of differing colors, fair as the Natural ones, and not eaſy to be diſtinguiſhed from them.

XIX. *To make very hard Paſts with* Sulphur Saturni.

℞ Rock Cryſtal prepared ℔x. Salt of *Rochetta* purified and ſearced ℔vj. *Sulphur Saturni* ℔ij. mix all well, put them into an Earthen glazed Pan; put on them a little fair Water, to make all into a Maſs ſomething hard: divide the whole into Lumps of three ounces, making a hole in the middle, the better to dry them in the Sun: being dryed, put them into an Earthen Pot well luted, and calcine in a Potters Furnace: then beat and grind the Matter well on a Marble, and ſearce thro' a fine Sieve. Put this Pouder into a Glaſs Furnace to melt, purify it for 3 days, then caſt the Maſs into Water, dry it, and put it into the Furnace again to melt, and purify for 15 days, that it may be without Spot, and it becomes of the color of fine Cryſtal.

XX. This cryſtaline Matter may be tinged of ſeveral colors, as of an *Emerald* with treble calcined Copper: of a *Topaz*, with prepared *Zaffer*, &c. as we hereafter

teach. In this caſe, you muſt put into the Furnace as many Pots as you deſign to make different colors, with the former cryſtaline Matter, adding to it in due proportion the tinging Materials; ſo will you have Stones of finer and more glorious colors than thoſe which are truly Natural, and coming nearly to their hardneſs, but eſpecially in that of the Emerald.

XXI. *To make* Saturnus Depuratus.

℞ Good Lytharge or *Venice* Ceruſe *q. v.* levigate it, and put it into a great Glaſs Cucurbit, affuſe thereon diſtilled Vinegar, to over-top it 4 inches: digeſt on a gentle Aſh or Sand heat, till the Vinegar is well colored and impregnated; decant, and continue this Work till the Matter will yield no more Tincture. Take all this tinged Vinegar and rectify it 4 times on Tartar calcined to whiteneſs: filter it, put it into a Glaſs Cucurbit, and on an Aſh or Sand heat gently evaporate to dryneſs, till it is juſt skin'd over: then putting the Veſſel into a cold place, covering it, let it ſhoot into Cryſtals, which will be pure and fuſible: take them out of the Veſſel with a Skimmer full of holes: the remaining Liquor evaporate again till it is skinn'd over, and cryſtalize as before: theſe Cryſtals dry well, reduce them into ſubtil Pouder, and keep them in a Glaſs cloſe ſtopt for uſe: of this you ought to make 10 or 12 pounds at a time, for it is of no leſs eſteem for making Paſts for Gems, than the *Sulphur Saturni.*

XXII. *To make Paſte of* Saturnus Depuratus.

℞ Tranſparent Flints calcined, or Rock Cryſtal prepared, *Saturnus Depuratus*, *ana* ℔x. each in fine Pouder mixt well together: put the Maſs into a Pot in a Glaſs-houſe Furnace, to melt and purify 3 days: then caſt it into a Wooden Veſſel full of cold Water: dry it, put it into the ſame Pot in the Furnace, to melt and purify again: take out the Pot, and when cold, make it into an impalpable Pouder on a Marble, and keep it in a Glaſs well ſtopt, to ſerve for a Baſis, of which to make all ſorts of Artificial Gems, as we ſhall hereafter teach.

XXIII. *To make Yellow* Rocaille.

℞ *Minium* ℔j. fine white Sand ℔iij. mix and beat them together very well in a Mortar; put all into a ſtrong Crucible covered and luted: being dry, put it into a Wind or Glaſs Houſe Furnace, where the Fire is violent,

lent, to reduce the Matter into Glaſs, which make up into Grains or Beads as you pleaſe.

XXIV. *To make Green* Rocaille.

℞ *Minium* ℔j. fine white Sand ℔iij. in melting, it will be very firm, will alter its color, and become a pale red, and ſo change again. Of theſe *Rocailles* they make the Beads and Bracelets which they carry to *America*, and ſell to the *Indians*, and may be made into all ſorts of colors: it cannot be prepared without red Lead, but it is full of Impurity. We frequently uſe it in Painting on Enamel and Glaſs, tho' it is ill qualified and full of impure Lead, yea, even that which is moſt clear and tranſparent. But to ſuch as work in Enamel, I think the cryſtaline Matter made of *Saturnus Depuratus*, is much better than this.

CHAP. VI.

Of Colors from Iron.

I. *Natural Ferretto.*

The Name comes from the *Italians* and *Spaniards*, as *Cæſalpinus lib.* 3. *cap.* 5. ſaith: and it is ſo called becauſe it is found in Iron Mines: ſome of it is black like Iron: but the beſt is red, being beaten, and almoſt like Cinnabar when well calcined: *Pometus in Hiſt. lib.* 2. *cap.* 18. ſays it is the *Lapis Hæmatites*, and that this Stone is that which we call *Ferretto* of *Spain*: it is of a reddiſh color, hard, weighty, and pointed with long ſharp Points. *Pliny lib.* 26. *cap.* 20. makes mention of five kinds of *Hæmatites* or Blood-ſtones, and that they have a Magnetick Virtue in attracting ſeveral ſorts of Metals to them. There are indeed no Iron Mines in which it is not found.

II. *To make* Ferretto *of* Spain.

℞ Clean Filings of Iron and Sulphur in Pouder, lay them *S. S. S. ſtratum ſuper ſtratum* in a Crucible, beginning and ending with the Sulphur; after which cover the Crucible with another, or with a Tile: lute it cloſe, and ſet it (being dry) in a Furnace with Coals round it,

for 6 hours, encreasing the Fire every 2 hours: let the Fire or Coals be 6 inches from the Crucible the first 2 hours; 3 inches the second 2 hours, and let them be covered all over the last 2 hours: then the Matter being cold, beat it into fine Pouder, and keep it for use. It is called *Ferretto* of *Spain*, because the most we use comes from thence: formerly it came from *Memphis* in *Egypt* and *Cyprus*, now not. *Neri* and *Merret* use only Copper or Brass to make it of, but true *Ferretto* cannot be made without Iron, and that from Iron is finer, redder, and more pure.

III. *Another way to make* Ferretto *of* Spain.

℞ Fine Steel, (for in that consists the Perfection of the Work) make it into thin Plates, or file it: do the same also with Copper or Brass: ℞ of Steel Filings p. ij. Copper or Brass Filings p. j. put them into a Crucible *S.S.S.* lute them, and put them on a gentle Fire for 8 hours; then take it out, and melt the whole in a Wind Furnace; after cast it into an Ingot, or make it into Plates, and it is done. To use this in Glass, you must calcine these Plates, beat them into fine Pouder, and search it, and so keep it for Use. All these *Ferretto's* are of wonderful Use for tinging and coloring Pastes, Gems, Enamel and Glass.

IV. *Another* Ferretto.

℞ Copper or Brass Plates in bits, put them into a Crucible upon a bed of Sulphur, and lay them and Sulphur *S.S.S.* till the Pot is full; cover it with another, or with a Tile, lute it well, dry it, and put it into a brisk Fire for 2 hours, to calcine: being cold, it will be black and crumble; beat it into fine Pouder, search it, and keep it for Use. It is of vast Use to give fine colors in Glass of Lead; but mixt with convenient quantities of *Ferretto* made of Iron only, it causes a vast variety of beautiful Appearances.

V. *Another* Ferretto.

℞ Bits of thin Plates of Copper or Brass, Copperas or Vitriol in Pouder, *ana q. f.* put them in a Crucible, laying them *S.S.S.* and a bed of Copperas at bottom and on the top; and perform the Calcination exactly, as in the last Section, in 3 days times: take out the Crucible and the bits that are in it; and with fresh Copperas put them in again *S.S.S.* and reverberate as before:

this

this do for 6 times; ſo will you have an excellent *Ferretto*, which beat into Pouder will tinge Glaſs and Gems into extraordinary beautiful colors.

VI. *To make* Crocus Martis.

℞ Pure fine Filings of Iron or Steel, which are better, p. j. Sulphur in Pouder p. iij. put them into a Crucible upon a bed of Sulphur, *S.S.S.* calcine with a very ſtrong Fire for 4 hours: take out the Crucible, let the Matter cool, grind and ſearce it thro' a fine Sieve: put the Pouder into a Crucible, lute it well, and put it into a Reverberatory for 15 days or more; and from a reddiſh color, it will become a very deep red, almoſt purple; keep it in a cloſe Veſſel for Uſe. It gives a red color more or leſs bright, and may be mixed with Tinctures of other Metals.

VII. *Another* Crocus Martis.

℞ Filings of Iron or Steel, put them into Earthen Pans; ſprinkle them with ſtrong Vinegar, ſo as to make them throughly wet; ſet them in the Sun or open Air to dry: pouder them, and ſprinkle in like manner again, drying as before. This Work of ſprinkling, drying and poudering repeat 8 times; then pouder, grind, ſearce, and keep it for Uſe. This tinges Glaſs, *&c.* of a true Blood red color, and complies very much with Greens and the Emerald Glaſs of Lead; and is uſed in Paſtes for the ſame color with Verdigriſe, and in Blacks.

VIII. *Another* Crocus Martis.

℞ A Bar of Iron or Steel, give it as red hot a heat as you can; and having a long large Stick of Brimſtone, put the end of the one to the end of the other, over a great Pan full of Water, ſo will the Metal fall down in *granuli* or little drops, melting like Wax; take theſe Grains dry, and with Pouder of Sulphur, put them in a Crucible S.S.S. put them into a Reverberatory to be calcined to a red Pouder; which grind, ſearce, and keep for Uſe.

IX. *Another* Crocus Martis.

℞ Filings of Iron or Steel, put them into glazed Earthen Pans; ſprinkle them with *Aqua fortis*, ſet them to dry in the Sun, and reduce them into Pouder: repeat this Work ſeveral times, as before, in the Vinegar: when you ſee the color very good and red, pouder, ſearce it,

it, and keep it for Uſe. This makes the red color of the Iron yet more manifeſt in Glaſs, even ſo reſplendent and bright as ſeems almoſt incredible.

X. *Another* Crocus Martis.

℞ Filings of Iron or Steel, put them into a Glaſs Body well luted; affuſe thereon *Aqua Regalis*, and diſſolve: keep them ſo 3 days, ſtirring them every day well; during which, add freſh Filings by little and little; in doing which, be very cautious, for the Fermentation will make it riſe ſo much as to endanger breaking the Glaſs or running over: digeſt 3 days, then putting the Cucurbit on a gentle Fire, evaporate to dryneſs. This is admirable for tinging Glaſs, and is the beſt of all, it yielding more Diverſity of Colors than all the others.

XI. *Another* Crocus Martis.

℞ Filings of Iron or Steel, reverberate them with a very ſtrong Fire of the 4th degree, till the color becomes purple: then take it out, and being cold, put it into a Veſſel full of Water, ſtir it ſtrongly about, and then preſently decant the Water into another Veſſel, and reiterate the waſhing; ſo will the Iron not yet calcined, remain in the firſt Veſſel; this reverberate again, to a purple color, and waſh as before, preſently decanting the troubled Water. Theſe Waters mix all together, and evaporate to dryneſs; ſo will you have a very red and very fine Pouder, of no leſs Virtue and Beauty than the former, which keep for Uſe.

CHAP. VII.

Of Colors from Copper or Braſs.

I. *TO Calcine Copper to make Vitriol of* Venus.

℞ Thin Leaves of pure *Venus*, put them into Crucibles with common Sulphur in Pouder S.S.S. cover and lute well the Crucibles, and being dry, put them into a Reverberatory Furnace with a good Charcoal Fire for 2 hours: let them ſtand and cool, and you'll find the *Venus* blackiſh, enclining to a deep purple: pouder and ſearce it. ℞ of this Pouder ℔ij. Sulphur in Pou-

der

der ʒxij. mix, and put them into a flat-bottom'd Earthen Pot, ſtrong enough to endure the Fire: lay upon the Furnace a ſtrong Earthen Diſh, fill it with throughly kindled Charcoal, and place the Pot, having the Pouder in it, thereon: as it grows hot, and the Sulphur takes Fire, ſtir it with a long Iron Hook, that it may not ſtick to the Pot: continue this till all the Sulphur is conſumed and ſmoaks no more. Take the Pot off the Fire, and take the Copper out with an Iron Ladle: beat it well in a Braſs Mortar, and ſearce it finely, ſo have you a blackiſh Pouder: reiterate this Calcination thrice with like Proportions of Sulphur, and the third time let the Copper remain till it becomes red and yellow: take it off, beat it in a Braſs Mortar to Pouder, and ſearce it, beating and ſearcing until all is gone thro' the Sieve; ſo have you a well-colored Calx of *Venus*, which keep for Uſe.

II. *To make the Tincture of* Venus.

Take Glaſs Cucurbits as many as you pleaſe, put into them your Calx; and to ℔j. of Calx of *Venus* put Water ℔vj. digeſt in a gentle Sand heat for 4 hours, evaporating a third of the Water: let it cool, and decant the clear Water into another Veſſel: dry the Sediment in a Crucible on the Furnace; and let the Water ſettle for 2 days, and very ſmall Grains of Copper, of a blackiſh color, will fall to the bottom: filtrate the Water, and gather the Grains to add to the former Sediment. Take all theſe Sediments, and to every pound add Pouder of Sulphur ʒvj. and calcine it thrice, as exactly as we have taught in the former Section. To ℔j. of this Pouder put Water ℔vj. and extract the Tincture exactly as is juſt now before declared; which decant and reſerve with the former. Gather the Sediments and Grains which remain, and repeat the Calcination thrice in the ſame manner, and with the ſame quantity of Sulphur: which done, extract the Tincture in the ſame manner before declared, with fair Water, adding it to the former Extractions: all this whole Work repeat 6 times, ſo will the Copper or Sediments remaining in the bottom, become a ſoft impure Earth, deprived of all its Blewneſs or Tincture, and fit for no Uſe in our way, the chief Virtue of the Copper being now contained in the Water or Tincture.

III. *To*

III. *To make the Vitriol of* Venus.

Put all your former Tincture into a low Glaſs Cucurbit, which put into a gentle Aſh or Sand heat; let the Gourd hold about 2 quarts, and put into it about 3 pints of your Tincture, to evaporate gently: the reſt of the Tincture put into Glaſs Bottles, which ſet round the Furnace, to warm the Tincture; and at ſet times, as you ſee the Humidity to evaporate out of the Gourd, fill it again out of the Bottles: evaporate ℔x of this Tincture to ℔ijſs. or ℔iij. at moſt: then decant it into 2 or 3 glazed Earthen Pots, and ſet it into a cold moiſt place to cryſtalize; ſo will the Cryſtals or Vitriol ſhoot to the bottom and ſides, and ſtick there like little long Iceicles, having the true color of an Oriental Emerald: pour the remaining Water or Tincture into the Cucurbit, and evaporate again to one half, and cryſtalize as before: and thus continue to evaporate and cryſtalize, till you have obtained all the Vitriol: theſe Cryſtals or Vitriol gather and dry, that it may not ſtick, and keep it in a Veſſel cloſe ſtopt. Its Excellencies are admirable, not only in the Art of Glaſs, and in Metalick Works, but in Phyſick alſo.

IV. *To Extract the Spirit of this Vitriol.*

℞ Of the former Vitriol ℔j. put it into a Glaſs Retort well luted, which being dry, ſet it in a Sand Furnace, with a very large Receiver: kindle the Fire, let it be gentle for 4 hours, leſt by the Impetuoſity of the Spirits coming forth, the Receiver ſhould break, when the Spirits aſcend in white Clouds, encreaſe the Fire gradually, till the Receiver clears again and cools, and all the Spirit comes together. Then let the Fire go out of it ſelf, and after 24 hours unlute the Joynts, take away the Receiver, and put the Liquor into Glaſs Bottles, which ſtop cloſe with Glaſs Stopples. This ſubtil Spirit contains a noble Blew, and affords wonderful Tinctures, having ineſtimable Operations, as well as ſurprizing Effects in Phyſick, whoſe excellent Qualities ought not to be expoſed to the Ravage of prophane Hands.

V. *To ſeparate the* Caput Mortuum.

Take what is left in the bottom of the Retort after the Diſtillation of the former Spirit, by breaking the Retort: then reduce it to a fine Pouder, with a mixture of *Zaffer* prepared, (to ℔ijſs. of it add ʒiv. of *Zaffer*) and keep it for

for Uſe, *viz.* to tinge Cryſtal Frit of an admirable Sea green color. This is an admirable Mixture beyond Compariſon, and is what is made uſe of to give this fine Water color, or Egmarine on Glaſs and Cryſtal, not to be equalled by any other Compoſition whatſoever.

VI. *A Sea-Green far finer than any other.*

℞ Of the former *Caput Mortuum* ℔iij. *Zaffer* prepared ℥viij. mix them, and put it into a Pot filled with Cryſtal Metal very fine, and well purified from its Salt: ſtir the whole well with the Glaſs for the ſpace of 2 hours, after which try the color; if too pale, put in more of the Mixture: when it is well, let it ſtand or reſt 24 hours: ſtir the whole again, that the color may be well incorporated, and then it may be wrought. It will be an extraordinary and beautiful Sea-green.

VII. *Another way to Calcine Copper or Braſs.*

℞ That kind of Braſs made into thin Leaves, which is almoſt of the color of Gold, and may be clipt with a ſmall fine pair of Siſſars; which Braſs Leaves are called *Feſtoons*: cut them into little pieces, put them into a Crucible, which cover and lute over; and being dry, put it into the mouth of a Reverberatory to calcine for 4 or 5 days, ſo that the Leaves may not melt, for then they would be ſpoiled: beat them on a Porphyry, and ſearce them thro' a fine Sieve; ſo will you have a blackiſh Pouder: ſpread it on Tiles, and put them into the ſame Furnace for 4 days longer: take it out, blow off the Aſhes, pouder and ſearce it again, and keep it for Uſe. If it is well calcined, and as it ought to be, it will, when put into the Glaſs, make it ſwell; if it does not, you muſt calcine other Leaves, this being worth nothing. This gives a fine Blew.

VIII. *Another way.*

℞ The ſame Leaves as the former cut ſmall, put them into a Crucible with Sulphur in Pouder S. S. S. put it on live Coals (being firſt covered and luted) at the mouth of the Furnace, to calcine for 24 hours: then take out, and put it into an Earthen Pan in a Reverberatory for 10 hours: take it out, pouder, and keep it for Uſe. This makes a tranſparent Red, Yellow and Chalcedony.

IX. *A fourth way to Calcine Copper.*

℞ Copper in thin Plates, and in bits, put it into a great Crucible, and keep it in the Furnace till it is calcined,

cined, without melting: reduce it to Pouder, which will be very red; ſearce it, and keep it for Uſe. It is an admirable thing for coloring Glaſs.

X. *The treble Calcination of Copper.*

℞ Of the red Pouder in the former Section, put it on Tiles, and calcine again for 4 days; ſo will it be black, and coagulated into a Maſs: pouder and ſearce it, and in the ſame Furnace calcine again for 5 or 6 days, and it will become grey without coagulating. With this Pouder you may make Sky-colored blew, Turcois color, a green Emerald, and divers other colors: if it be calcined above thrice, it will not color Glaſs; and you may know when it is well calcined, by putting ſome of it into a Pot of boiling Glaſs; if it makes the Glaſs ſwell, it is right; if not, it muſt be calcined 24 hours longer; otherwiſe you muſt begin a new Proceſs.

XI. *Another treble Calcination of Copper.*

℞ Scales of Braſs, waſh them clean and dry them, put them into one or more Crucibles, ſet them juſt in the mouth of the Reverberatory for 4 days, then grind and ſearce: put this Pouder into the Furnace to reverberate for 4 days longer, and it will be in little Balls of a black color: pouder and ſearce again. Then put this Pouder once more into the Reverberatory for 4 days more: pouder, ſearce, and keep it for Uſe. You may know if it is well done, by making Tryal.

XII. *Another Calcination called* Æs Uſtum.

℞ Bits or thin Leaves of Copper ʒxv. Sulphur in Pouder ʒx. Sea Salt in fine Pouder ʒv. fill the Crucible S.S.S. put it in a Furnace of live Coals, and leave it till the Sulphur is wholly conſumed: take it out, and it will be of an Iron grey, but reddiſh within; it gives a noble fine Tincture.

XIII. *Another* Æs Uſtum.

℞ Thin Plates of the reddeſt Copper, (the Roſe Copper) make it red hot, and extinguiſh it in Urine, in which common Salt has been diſſolved: reiterate this Work till it becomes of the color of Gold both within and without: after which cement thoſe places with this Pouder. ℞ Sulphur ℔ij. Saltpetre ℔ij. Vitriol calcined to redneſs ℔j. make all into a Pouder. Put the Plates with the Pouder into a Crucible S.S.S. cover it with another Crucible, having a hole in its bottom; lute them together,

together, and being dry, put them into a circulatory Fire (having hot Embers underneath) for 6 hours: the firſt 2 hours, let the Fire be a foot diſtant from the Crucible; the ſecond 2 hours, let it be but half a foot from the Crucible; and the laſt 2 hours, let it be cloſe to, covering the Crucible. Have a care that the Fire is not too great, that the Matter may not melt, for then it is ſpoiled. Being cold, beat it into fine Pouder, waſh it, dry it, and keep it for Uſe.

XIV. *To make* Crocus Veneris.

℞ Of the former *Æs Uſtum*, choice Verdigriſe, fixt fuſil Sal Armoniack, *ana q. v.* beat all well together, dry them over the Fire in a Frying-pan, add Urine, and make all boil till the Urine is conſumed, which repeat to the third time: pouder the Matter, calcine well in a Reverberatory: make it into an impalpable Pouder, put it into an Earthen glaz'd Pot, affuſe thereon Urine, adding to each pound of Urine fixed fuſil Sal Armoniack ℥iv. boil on a gentle Fire for a quarter of an hour, then decant the Urine into ſome Glaſs Veſſel: put more of the ſame *Menſtruum* upon the Matter, boil a quarter of an hour, and decant as before: repeat this Work ſo long as it will extract any Tincture. Mix all theſe Tinctures, filter, then evaporate 3 quarters over a gentle Fire: put the remainder into an Alembick, and diſtil to dryneſs. At bottom you have *Crocus Veneris*, of admirable Uſe for coloring Glaſs.

XV. *Another* Crocus Veneris.

℞ Thin Copper Plates, and lay them in an Earthen Pan with common Salt S. S. S. put it on the Furnace, letting it ſtand till the Matter is very red: extinguiſh and waſh away the Blackneſs in cold Water: reiterate this Work with common Salt as before, doing it as oft as you pleaſe. At laſt affuſe warm Water on that where the Plates have been extinguiſhed: let it ſtand ſome time, then empty it, and at bottom you will find a *Crocus Veneris* red as Blood. Waſh it ſeveral times to cleanſe it, then dry it, and keep it for Uſe.

XVI. *Another* Crocus Veneris.

℞ *Æs Uſtum* prepared with Sulphur and Salt, heat it red hot 9 times, quench it as often in Linſeed Oil, then dry and pouder it. Some are contented with this Preparation.

XVII. *Another*

XVII. *Another* Crocus Veneris.

℞ Copper calcined *per ſe* ℔j. Sulphur *Vive* ℔viij. all being well poudred, mix, and put them into a large Crucible, which ſet on live Coals in a little Furnace, ſtirring it continually with an Iron Rod, till the Sulphur is conſumed: reiterate this Work 6 times, then caſt it into an Earthen Pan of boiling Water, ſtir it often with a Stick, whilſt the Calx is deſcending to the bottom: the Water being ſettled and clear, evaporate 3 quarters of it, and ſet it to cryſtalize, or evaporate the whole; and at bottom you will have the *Crocus Veneris* of a delicate fine red color.

XVIII. *A Beryl Color, or Green Blew,* viz. *a Sea Green for Glaſs.*

℞ Cryſtal Frit without *Manganeſe q. v.* melt it very thin, and skim off the Salt (which ſwims on the top like Oil) with an Iron Ladle, otherwiſe the color would be foul and oily: the Matter being purified, to ℔xx. of it, put of the calcined Copper in *ſect.* 7. above ʒvj. *Zaffer* prepared ʒjſs. well mixed together: put this Mixture into the Pot of Metal by little and little, for fear the Cryſtal ſhould riſe or ſwell, and run over: ſtir it well all the while: this done, let the Metal ſtand and ſettle for 3 hours, that the color may incorporate, and then ſtir it again. Make a Proof of it, and after 24 hours mixing the Pouders, and well ſtirring or mixing it, it may be wrought, becauſe the color is very apt to fall to the bottom.

XIX. *Another Sky-Color, or Sea-Green.*

To ℔xx. of well purified Cryſtal Frit made with *Rochetta*, put calcined Copper (at *ſect.* 7. above) ʒvj. obſerving the Rules in the former *ſection*; ſo will it be an admirable color, which you muſt make lighter or deeper as you pleaſe. Two hours after ſtir it well again: after which let it ſtand ſtill 24 hours without ſtirring, and then work it.

XX. *Another Sea-Green.*

℞ Cryſtal Frit without *Manganeſe*, well boiled, skimmed and purified ℔xx. Pouder of Copper thrice calcined at *ſect.* 7. aforegoing ʒvj. *Zaffer* prepared in Pouder ʒjſs. mix theſe Pouders together, and put them in at 4 times, ſtirring it each time well, for fear of running over: 2 hours after it is mixed, incorporated and ſettled, make

a

a Tryal, to ſee if it is deep enough. It will ſeem greeniſh at firſt, but be not concerned for that, for the Salt will waſh away all that Greenneſs, and change it into blew: the color will be lighter or deeper, according to the quantity of the Pouder you put in: there is no Rule in this caſe, but the Reaſon and Diſcretion of the Artiſt. After it has ſtood 24 hours ſtill, without ſtirring, you may work it.

XXI. *A Sea-Green or Sky-Color in Cryſtal.*

℞ Cryſtal Frit well purified from its Salt, and which has not been put into Water, ℔xx. treble calcined Scales of Braſs at *ſect.* 11. above in Pouder ℔ſs. *Zaffer* prepared ℥j. ℥ij. ℈ij. mix the Pouders together, and then mix them *gradatim* in the Pot, ſtirring the Maſs well for 2 hours: if the color is good, let it ſtand ſtill 24 hours; ſtir well again, that the color may be well incorporated, then you may work it. It will be a delicate Blew, and may be heightned as you pleaſe, but beware of making it too high. If you mix Cryſtal Frit with *Rochetta* Frit in equal quantities, you will have as admirable a Blew as can be deſired.

XXII. *Another Sky-Color or Sea-Green, (but ſomething inferior to the laſt.)*

℞ Cryſtal Frit made of *Rochetta* of the *Levant*, and *Barilla* of *Spain*, without any *Manganeſe*, and not caſt into Water, ℔xx. mix with it the ſame Pouder, and in the ſame Proportions mentioned in the laſt *ſection*, (it being firſt throughly purified from its Salts) and obſerving the Directions in *ſect.* 18, 20, and 21. above, you will have a fine Sea-green or Sky-color, fit for almoſt any Uſe.

XXIII. *A wonderful Green.*

℞ Common Glaſs Metal made with *Pulverine* without *Manganeſe*: being well melted and purified, put in a fit quantity of the following Pouder, as we direct in Emerald colors, and which by Tryal you may eaſily find out; ſo will you have an admirable yellowiſh Green, very fair and beautiful. Take the Pouder of the treble Calcination of the Scales of Copper at *ſect.* 11. above: Pouder of Scales of Iron, only waſhed, dryed, beaten and ſearced, without any other Preparation, of each equal quantities: mix them for the Purpoſe aforeſaid.

ſaid. The Scales of Iron drive away all the dull natural Green of the Glaſs.

XXIV. *A Green Emerald Color in Glaß.*

℞ Common Glaſs well purified from its Salt, without *Manganeſe*, being well melted and purified, ℔xx. *Crocus Martis* made as directed with Vinegar in *cap.* 6. *ſect.* 7. aforegoing ʒv. mix and incorporate it well with the Glaſs, and let it reſt an hour, that it may throughly take the color; ſo will the Metal looſe its natural ill color, and become green: then add Pouder of treble calcined Scales of Braſs at *ſect.* 11. above ʒvjſs. which put in at 6 times, mixing and ſtirring it well every time: let it ſtand 2 hours to be impregnated with the Tincture, then ſtir it again, and ſee if it is right: if it is too blew, add more *Crocus Martis* to it, and it will be a fine Emerald color: after 24 hours ſtanding, ſtir it again well, and then work it.

XXV. *An Emerald Green, fairer than the former.*

℞ Cryſtal Frit without *Manganeſe*, twice waſhed in Water to free it from the Salt, ℔xx. common white Metal without *Manganeſe* ℔x. melt, mix and purify them well: add to the Maſs the Pouder of thrice calcined Copper at *ſect.* 10. above ℔ſs. *Crocus Martis* made as directed in *cap.* 6. *ſect.* 6. aforegoing ʒiij. mix them well together, and put it in at 6 times, ſtirring the Maſs well each time, obſerving the Directions in *ſect.* 18, 20, 21, and 24. above: if too blew, add more *Crocus Martis*; if not blew enough, more Pouder of calcined Venus.

XXVI. *An Oriental Emerald Green, finer than all the reſt.*

℞ Cryſtal Frit well waſhed ℔vjſs. common Frit or *Pulverine* ℔vj. common white Glaſs in Pouder ℔vjſs. *Minium* or red Lead ℔ivſs. mix all together, and in a ſhort time they will be pretty well purified: caſt all in to Water to purify it more, ſeparating the Lead, (if any be.) The Maſs thus waſhed and dryed, melt it again and purify it for 24 hours: then add of the *Caput Mortuum* of Venus at *ſect.* 5. aforegoing, and *Crocus Martis* of each a little, and finiſh the Maſs as in the former Operations. The *Minium* beat again, calcine at a good Fire, and reduce it to a Pouder for this Work.

XXVII. *To make a Turcois Blew.*

℞ Cryſtal Frit of a full fair blew color, melt it well pu

put into it by little and little well decripitated Salt, reduced to a white Pouder, mix it well and gradually, as you do metaline Colors: ſo will the clear tranſparent Blew become thick, for the Salt penetrating the Glaſs, takes away its Tranſparency and cauſes a Paleneſs, and gives it the Turcois color. When the color is perfect, it muſt be preſently wrought, for the Salt will evaporate and be conſumed, and then the Glaſs will be as tranſparent as formerly. If in working you find the color to go away, or the Metal to be tranſparent, you muſt revive it by adding a little more decripitated Salt. The Salt is to be well decripitated, otherwiſe it will be apt to fly in the Work-man's Eyes: alſo it is to be put in by little and little, till the color is perfect and right. The Frit for this Purpoſe you may make thus: ℞ *Cryſtal Frit, good* Rochetta *Frit, of each equal parts; melt and mix them, and it will be a very fair Blew.*

SECT. II. *Of* GEMS.

CHAP. VIII.

Of Cements, Mineral Colors, and Gems.

I. *TO Melt Cryſtal for a ſtrong Cement.*

Beat Cryſtal to bits, and put them into an Iron Spoon, cover it and lute it well, and heat it in the Fire till it is red hot, which quench in Oil of Tartar: this do ſo often, till they will eaſily beat to pouder in a Mortar, which will then eaſily melt. This is of uſe to make ſtrong Cements, and to counterfeit Jewels with.

II. *To make a Cement for broken Glaſſes.*

Glair of Eggs mixed with Quick-lime will join broken pieces of Glaſs together, and all Earthen Pots, ſo as that they ſhall never be broken in the ſame place again.

III. *Or thus,* Take old liquid Varniſh, and join the pieces therewith; bind them together, and dry them well in the Sun, or in an Oven, and they will never

unglew again: but then put no hot Liquor into them.

IV. *Or thus*, Take White Lead, Red Lead, Quick-Lime, Gum-Sandrack, of each ℥j. mix all with Glair of 8 Eggs.

V. *Or thus*, Take White Lead, Bole, liquid Varnish as much as sufficeth.

VI. *Or thus*, Take White Lead, Lime, Glair of Eggs, as much as sufficeth.

VII. *Or thus*, Take fine Pouder of Glass, Quick-Lime liquid Varnish, of each a sufficient quantity.

VIII. *Or thus*, Take Quick-Lime poudered, liquid Varnish, Glair of Eggs, of each alike; grind them upon a Stone: this is a strong Glew, even for Stones.

IX. *Or thus*, Take calcined Flints, and Egg-shells, of each alike, and with Whites of Eggs and Gum-Tragacanth, or Dissolution of Gum-Sandrack, make Glew this in few days will be as hard as Stone.

X. *Or thus*, Take calcined Flints ℥ij. Quick-Lime ℥iv Linseed Oil so much as may temper the Mixture: this is wonderful strong; but with liquid Varnish it would be stronger.

XI. *Or thus*, Take Fish Glew and beat it thin, then soak it in Water till it is like Paste, make rouls thereof which draw out thin: when you use it, dissolve it in fair Water over the Fire, letting it seeth a while, and scumming of it, and whilst it is hot, use it. This not only cements Glass, but Tortoise-shell, and all other things.

XII. *To make Glass Green.*

Green Glass is made of Fern Ashes, because it hath much of an Alkali Salt. Crystal or Venice Glass is tinged green with Ore of Copper, or with the Calx of Copper, 5 or 6 grains to an ounce.

XIII. *To Counterfeit a Diamond.*

Take a Saphire of a faint color, put it into the middle of a Crucible in Quick-Lime, and put it into a gentle Fire, and heat it by degrees till it is red hot, keep it so for 6 or 7 hours; let it stand in the Crucible till it is cold (lest taking it out hot it should break) so will it lose all its color, and be perfectly like a Diamond, so that no File will touch it: if the color is not all vanished at the first heating, you must heat it again till it is perfect.

XIV. *To*

XIV. *To prepare the Salts for Counterfeit Gems.*

The Salts uſed in making counterfeit Gems, are chiefly two, the firſt is made of the Herb *Kaly*, the ſecond of Tartar; their Preparations are according to the uſual way, (but in Glaſs Veſſels.)

XV. *To prepare the Matter of which Gems are made.*

The Matter is either Cryſtal or Flint that is clear and white: put them into a Crucible in a Reverberatory heat, (the Crucible being covered) then take them out, and caſt them into cold Water, ſo will they crack and eaſily reduce to Pouder: of which Pouder take an equal quantity, with Salt of Tartar (or *Sal Alkali*;) to which Mixture add what color you pleaſe, which muſt be either Metaline or Mineral: put them into a very ſtrong Crucible, (filling it about half full) cover it cloſe, and melt all in a ſtrong Fire till it becomes like Glaſs.

XVI. *Where note, in melting you muſt put an Iron Rod into it, and take up ſome of it; and if it is free from Bubles, Grains or Specks, it is fuſed enough; if not, you muſt fuſe it till it is free.*

XVII. *To make a Counterfeit Diamond of Cryſtal.*

Put Cryſtal in a Crucible, and ſet it in a Glaſs Furnace all night, and then bring it to fine Pouder, mix it with equal parts of *Sal Tartari*, digeſt all night in a vehement heat, but yet not to melt, then take them out, and put them into another Veſſel which will ſtoutly endure the Fire; let them ſtand melted 2 days, and take out the Maſs.

XVIII. *To make a Chalcedon.*

Mingle with the Pouder of Cryſtal a little calcined Silver, and let it ſtand in Fuſion 24 hours.

XIX. *To make Counterfeit Pearls.*

Mix Calx of Luna and Egg-ſhells with Leaf Silver ground with our beſt Varniſh, of which make Paſte; and having bored them with a Hogs Briſtle, dry them in the Sun or an Oven.

XX. *To Counterfeit a Ruby.*

Take *Sal Alkali* ℥iv. Cryſtal ℥iij. Scales of Braſs ℥ſs. Leaf Gold gr. vj. mix all, and melt them in a Reverberatory.

XXI. *To Counterfeit a Carbuncle.*

Mix Cryſtal with a little red Lead, putting it into a Furnace for 24 hours, then take it out, pouder and ſearce

it, to which add a little calcined Braſs; melt all again, and add a ſmall quantity of Leaf Gold, ſtirring it well 3 or 4 hours, and in a day and night it will be done.

XXII. *An Artificial Amethyſt.*

Take Cryſtal ℔j. *Manganeſe* ℥j. mix them together, and melt them.

XXIII. *Or thus,* Take *Sal Alkali* ʒiij. Pouder of Cryſtal ʒiv. Filings of Braſs half an ounce, melt all in a ſtrong Fire.

XXIV. *An Artificial Jacynth.*

Put Lead into a ſtrong Crucible, and ſet it into a Furnace, let it ſtand there about 6 Weeks, till it is like Glaſs, and it will have the natural color of a Jacynth, not eaſily to be diſcerned.

XXV. *An Artificial Chryſolite.*

Mix with melted Cryſtal a fixth part of Scales of Iron, letting it ſtand in a vehement Fire for 3 days.

XXVI. *Or thus,* To the Mixture of the *Topaze* add a little Copper.

XXVII. *An Artificial Topaze.*

To Cryſtal ℔j. add *Crocus Martis* ℥ij. red Lead ʒiij. firſt putting in the Lead, then the *Crocus.*

XXVIII. *Artificial Corals.*

Take the Scrapings of Goats Horns, beat them together, and infuſe them in a ſtrong *Lixivium* made of *Sal Fraxini* for 5 days: then take it out and mingle it with Cinnabar diſſolved in Water; ſet it to a gentle Fire that it may grow thick; make it into what form you pleaſe, dry and poliſh it.

XXIX. *Or thus,* Take *Minii* ʒj. Vermilion ground fine ℈ſs. Quick-Lime and Pouder of calcined Flints, of each ʒvj. a *Lixivium* of Quick-Lime and Wine, enough to make it thick: add a little Salt, then make it into what form you pleaſe, and boil it in Linſeed Oil.

XXX. *An Artificial Emerald.*

Take Braſs calcined in Pouder ʒiij. which put again into the Furnace with Oil, and a weaker Fire; let it ſtay there 4 days, adding a double quantity of fine Sand, or Pouder of Cryſtal: after it is ſomething hard, keep it at a more gentle Fire for 12 hours, and it will be a lovely, pleaſant and glorious Green.

XXXI. *Another Emerald.*

Take fine Cryſtal ʒijſs. *Sal Alkali* ʒij. *Flos Æris* infuſed

fuſed in Vinegar and ſtrained ℥j. *Sal Tartari* ℥ſſs. mix and lute them into a Crucible, and put all into a Glaſs-makers Furnace for 24 hours, and it will be glorious indeed.

XXXII. *Another Emerald.*

Take Cryſtal ℥x. *Crocus Martis* and Braſs twice calcined, of each ℔j. mix and melt them, ſtirring them well with an Iron Rod.

XXXIII. *An Artificial Saphire.*

To melt Cryſtal, put a little *Zaphora*, (℥ij. to ℔j. of Cryſtal) then ſtir it continually from top to bottom with an Iron Hook, till it is well mixed, keep it in the Furnace 3 days, and it is done; yet when it is well colored, unleſs it be preſently removed from the Fire, it will looſe its Tincture again.

XXXIV. *Artificial Amber.*

Boil Turpentine in an Earthen Pot, with a little Cotton, (ſome add a little Oil) ſtirring it till it is as thick as Paſte, then put it into what you pleaſe, and ſet it in the Sun 8 days, and it will be clear and hard; of which you may make Beads, Hafts for Knives, and the like.

XXXV. *Another way to Counterfeit Amber.*

Take 16 Yolks of Eggs, beat them well with a Spoon; Gum Arabick ℥ij. Cherry-tree Gum ℥j. make the Gums into Pouder, and mix them well with the Yolks of Eggs; let the Gums melt well, and put them into a Pot well leaded, then ſet them 6 days in the Sun, and they will be hard and ſhine like Glaſs; and when you rub them, they will take up a Wheat Straw as other Amber doth.

XXXVI. *To make yellow Amber ſoft.*

Put yellow Amber into hot melted Wax well ſcum'd, and it will be ſoft, ſo that you may make things thereof in what form and faſhion you pleaſe.

XXXVII. *Another Artificial Amber.*

Take Whites of Eggs well beaten, put them into a Veſſel with ſtrong White-wine Vinegar, ſtop it cloſe, let it ſtand 14 days, then dry it in the Shade, and it will be like to Amber.

XXXVIII. *Another Artificial Amber.*

Break Whites of Eggs with a Spunge, take off the Froth, to the reſt put Saffron, put all into a Glaſs cloſe ſtopt, or into a Copper or Brazen Veſſel, let it boil in a Kettle of Water till it be hard; then take it out and

ſhape it to your liking, lay it in the Sun, and anoint it often with Linſeed Oil mixed with a little Saffron; or elſe being taken out of the Kettle, boil it in Linſeed Oil.

XXXIX. *To make White Enamel.*

Take Calx of Lead ʒij. Calx of Tin ʒiv. make it into a body with Cryſtal ʒxij. roll it into round Balls, and ſet it on a gentle Fire for a night, ſtirring it about with an Iron Rod till it is melted, and it is done.

XL. *The general Preparations and Proportions of Mineral Colors.*

Plates of *Copper* muſt be made red hot, and then quenched in cold Water; of which gr. v. or vj. mixed with Cryſtal and *Sal Tartari*, of each ʒſs. and melted, will color a Sea-green.

XLI. *Iron* muſt be made into a *Crocus* in a reverberatory Fire; of which gr. viij. or x. will tinge the ſaid ʒj. of mixture in a Yellow or Hyacinth color.

XLII. *Silver* is to be diſſolved in *Aqua Fortis*, and præcipitated with Oil of Flints, then dulcified with Water and dryed; of this gr. v. or vj. to ʒj. gives a mixed color.

XLIII. *Gold* muſt be diſſolved in *Aqua Regis*, and præcipitated with Liquor of Flints, then ſweetned and dryed; of which gr. v. or vj. to ʒj. gives a glorious Saphirine color. *Gold* melted with *Regulus Martis nitroſus* gr. v. or vj. to ʒj. gives an incomparable Rubine color.

XLIV. *Magneſia* in Pouder only gr. x. or xij. to ʒj. makes an Amethyſt color.

XLV. *Granata* in Pouder only gr. x. or xv. to ʒj. will tinge the Maſs into a glorious Smaragdine color, not unlike to the natural.

XLVI. Common Copper makes a *Sea-green:* Copper of Iron, a *Graſs-green:* Granats, a *Smaragdine:* Iron, *Yellow* or *Hyacinth:* Silver, *White, Yellow, Green* and *Granat:* Gold, a fair *Sky-color:* Wiſmut, a common *Blew:* Magneſia, an *Amethyſt color:* Copper and Silver, an *Amethyſt color:* Copper and Iron, a *pale Green:* Wiſmut and Magneſia, a *Purple color:* Silver and Magneſia, an *Opal*, and the like.

XVII. *To make Azure.*

Take *Sal Armoniack* ʒiij. Verdigriſe ʒvj. make them into Pouder, and put them into a Glaſs with Water of Tartar,

Tartar, ſo that it may be ſomewhat thick, ſtop the Glaſs and digeſt in Sand in Horſe-dung for 8 or 10 days, and it will be good Azure.

XLVIII. *Another way to make good beyond Sea Azure.*

Beat common Azure with Vinegar, and anoint therewith thin Plates of Silver, and put the ſame over a Veſſel full of Urine, which ſet over hot Aſhes and Coals, moving and ſtirring it till it looks like good Azure.

XLIX. *To Foliate Looking-Glaſſes.*

Take Jupiter and Saturn, of each p. j. melt them; and forthwith add of good Tin Glaſs p. ij. carefully skim off the Droſs, take it from the Fire, and before it is cold put to it good Quick-ſilver p. x. ſtir all together, and keep this foliating Liquor in a clean new Glaſs for uſe. When you uſe it, ſtrain it from its Droſs through a Cloth.

L. *To reduce Talck*, &c. *into fine Pouder.*

Firſt heat great lumps of Talck red hot, and then caſt them into cold Water 8, 10 or 12 times, and they will be immediately reduced into a mealy Calx, Snow white. Where note, 1. You muſt take *Engliſh* Talck, not *Venetian*, for that will not do. 2. After the ſame manner may Cryſtals and Flints be brought in a trice into a very ſubtil Pouder.

LI. *To reduce Glaſs into its firſt Principles.*

Take Bits or Pouder of Glaſs *q. v.* with an equal quantity of the Salt which Glaſs-men uſe in making of Glaſs: melt them together in a ſtrong Fire: then diſſolve all the melted Glaſs in warm Water: pour off the Water, and you ſhall ſee no Glaſs, but Sand in the bottom. Thus you may ſee, that the Fuſion of Glaſs, is not the laſt Fuſion, nor beyond any Reduction.

LII. *To make a cold Cement for Bricks.*

℞ Old *Cheſhire* Cheeſe freed from its outſide, and grated ſmall ℔j. Cows Milk ℔ij. mix and let them ſtand all night. Then take of the beſt unſlacked Lime in very fine Pouder ℔j. put it to the former, and ſtir them well together: to this add the Whites of 26 or 28 Eggs, and mix them perfectly well; ſo will you have a white Cement for cementing Bricks together, to make a Block or Maſs for Mouldings, Capitals, Carvings, &c. If you would have it of the color of Brick, add very fine Brick-duſt *q. ſ.*

LIII. *To*

LIII. *To make a hot Cement for Bricks.*

℞ Roſin ℔iv. Bees-wax ℔j. Chalk, Brick-duſt, both in ſubtil Pouder, *ana* ℥ij. mix and boil all together a quarter of an hour, ſtirring it all the while, then let it ſtand 4 or 5 minutes, and keep it for Uſe. Firſt make the Bricks hot by the Fire, then ſpread on this Cement, and rub them too and fro, till they ſit as cloſe as you would have them.

CHAP. IX.

Of Artificial Gems in general.

I. IT is our Endeavour in this Work, to make Art imitate Nature; and that is here done to ſuch a degree, as *that the Artificial Gems ſeem to ſurpaß the natural Oriental ones in Beauty and Color*, and want nothing of their Perfection but that of Hardneſs; which, whether it will ever be attained to by Art, is a Point we leave to the future Series of Time to determine.

II. The Baſis of Artificial Gems, is Natural or Rock Cryſtal, being a *Subſtratum* made only of a congealed Water and a pure ſubtil Earth, as other precious Stones are.

III. But they differ from Cryſtal in this, that they are tinged with a proper Sulphur or unctuous Subſtance, which has inſinuated it ſelf into the Pores of their Compoſition, which not only tinges them, but alſo fixes them, and gives to them that admirable Beauty and Hardneſs which they poſſeſs.

IV. This Sulphur is thought to be an Exhalation of Metaline and Mineral Spirits, aſcending up by force of a Terrene Centural Fire, containing a vaſt number and variety of Colors undetermined, till brought into Act, and fixt in their proper Subjects.

V. *Now, the Art of making theſe counterfeit Gems, is the Imitation of Nature*, by giving to a proper Matter or Body, ſuch as is that of Rock Cryſtal, ſuch Metaline and Mineral Tinctures, as ſhall be extracted from Metals and Minerals, perfectly fine and ſubtil in themſelves, and a-

ble

ble to reſiſt the Fire: and theſe Tinctures, tho' Volatile, are fixed in Cryſtal without altering their color.

VI. *Verbigratiâ.* Verdigriſe, when put on the Fire, tho' it changes its color, yet being mixed with Cryſtal in Fuſion, it is fixt, and unchangeable in its Tincture; for Metaline and Mineral Colors always return to their Principle, and tho' they be Volatile, yet they are retained by the great quantity of the fixed which Chains or over-powers them.

VII. You muſt therefore chuſe unalterable Colors, which have a Fixity in the midſt of Fire, being mixed one with another. *Ex. gr. Blew* and *Yellow* make a *Green*; you muſt therefore take ſuch a *Blew* as cannot be altered by Fire, nor be totally overcome by the *Yellow* you mix with it; as alſo a *Yellow*, which the Fire cannot change, nor yet be totally overcome by the *Blew*: the ſame underſtand of other Colors.

VIII. He who firſt wrote on this Subject was *Iſaac Hollandus*: he it was that firſt diſcovered this admirable Art of making Gems, and performed many other things almoſt incredible: here we ſhall give you ſome of his Preparations, amongſt the heap of Modern Curioſities of this kind, in reſpect of *Paſtes*, *Tinctures* and *Operations*, or Modes of Working, which every Artiſt may conſider of at Leiſure.

IX. *To Prepare Rock Cryſtal for this Purpoſe.*

℞ A good quantity of pieces or bits of Rock Cryſtal, put them into a large Crucible, which cover, that no Aſhes may fall into it: put it into a Furnace in the midſt of a good Fire, till the Crucible and Cryſtal are throughly red hot: then quench the Cryſtal in a large Veſſel full of cold Water: take out the Cryſtal and dry it, put it into the Crucible again and heat it red hot, and quench it again; this Work repeat 12 times, ſo will the Cryſtal eaſily break and crumble; if any thing is black in it as a black Vein, or the like, be ſure to pick it out: then beat it to Pouder in a Braſs (not Iron) Mortar, and grind it impalpable, not on a Porphyry, but in the ſame Mortar, and paſs it thro' a Searce; which Pouder keep for making Artificial Gems of. You muſt not uſe Cryſtal Frit, nor *Chalcedony*, nor *Tarſo*, nor any other Stones, how good and fair ſoever they be; for that which is made of them will be far leſs fair and reſplen-

reſplendent, than that which is made of this Pouder of Natural Cryſtal, which the neareſt approaches to the Subſtance of Gems or precious Stones. See another Preparation in *cap.* 4. *ſect.* 29. aforegoing.

X. *To make very pure Salt of Tartar.*

℞ Rheniſh Tartar, put it in a Crucible or Pan, and calcine to greyneſs: extract the Salt in warm Water, filter, and evaporate to dryneſs: diſſolve this white Salt again in fair warm Water, and evaporate again over a gentle Fire: take it off the Fire, and caſt it into cold Water, and you will find a thick Froth on the Surface thereof, which skim off with an Ivory Skimmer, having holes in it, no bigger than a ſmall Pin: put it on the Fire again, and evaporate, and caſt it upon freſh cold Water, and skim it as before: repeat this Work ſo long till you find no more Froth aſcend; then evaporate over a gentle Fire to dryneſs, and keep this Salt in a Glaſs cloſe ſtopt for Uſe, freed from all its Foulneſs and Unctuoſity, which cauſes its eaſy Fuſion. It is uſed in Cryſtal with your Colors when they are put to be melted.

XI. Tho' the making of Paſtes is an eſſential Point, becauſe the Beauty of the Gem depends upon it; yet the baking or boiling is alſo of material conſequence, becauſe, if that is ill done, the whole is ſpoiled: you muſt not only well regulate the Fire whilſt the Matter is in the Furnace, but you muſt be careful that your Crucibles do not break before the Maſs is well boiled and purified: if it breaks, and you put the Maſs into another Crucible, it will be full of Puſtules and Bliſters, and indeed be ſpoiled.

XII. *In this caſe, it is better to let the Crucible cool, if it is not quite broken,* and then lute it well, putting it into the Furnace again, to finiſh the boiling.

XIII. But, to avoid the danger of breaking your Crucibles, you ought to get them made of ſuch Earth as the Pots for making Glaſs are made of, which will endure the Fire longer than here we ſhall have any occaſion for: otherwiſe you may make uſe of the blew *German* Crucibles, becauſe they will endure the Fire much better than our ordinary ones.

XIV. *Or thus,* Take our ordinary Crucibles, or the *German* Crucibles, heat them in the Fire, and quench them in Oil Olive, letting it ſoak a little in: then take Glaſs

Glaſs reduced into impalpable Pouder, adding to it ſome Borax in Pouder, to help the Fuſion, and ſtrew it all over the Crucible, both within and without, as thick as you can: put it into a Furnace in a ſmall heat, and after encreaſe the Fire to a melting heat; ſo will the Glaſs melt, and vitrify the Crucible, and thereby be made able to endure the Fire much longer, than can be any ways required for this Work.

XV. Next, as to the Paſtes, you muſt put a fit Proportion of the Color into them: if you make ſmall Stones for Rings, the color muſt be the deeper, becauſe of their ſmalneſs: if they are made for Pendants, the color muſt yet be deeper: but if greater Stones, the color may then be the lighter: but this much depends upon the Skill and Experience of the Artiſt or Work-man.

XVI. It is alſo to be obſerved, that a very fine *Red* may be extracted from *Gold*; and one a little more obſcure from *Iron*: an excellent *Green* may be had from *Copper*; and a *Golden* color from *Lead*: a delicate *Blew* from *Silver*; but a much fairer from *Granats* of *Bohemia*, which are of ſmall Price by reaſon of their ſmalneſs, but yield a very excellent color: and the ſame may be done from *Emeralds*, *Saphirs*, *Rubies*, and other precious Stones.

XVII. It is alſo to be noted, that Glaſs of Saturn always makes Stones ſofter and heavier than other Materials: but if we make them of Rock Cryſtal, they will be much harder, adding to it the Tinctures which color them, and the fine *Sal Tartari*, as made at *ſect.* 10. above; for this opens the Cryſtal and makes it the better to imbibe, or be impregnated with the Colors you intend to tinge the Maſs of, making them more bright and ſhining.

XVIII. *Laſtly*, That prepared Rock Cryſtal at *ſect.* 9. above, is the Baſis, or Ground and Foundation of all our Artificial Gems or Precious Stones; and without this, nothing excellent or drawing to Perfection, can be done in this Art.

CHAP.

CHAP. X.

A Paſte for a Beryl, or Sky-Color, called Aqua Marina.

I. A *Paſte for a Beryl.*

℞ Rock Cryſtal prepared (as in *cap.* 9. *ſect.* 9.) ʒx. *Minium* or red Lead ʒxxv. *Zaffer* prepared ℈v. gr. v. being all in fine Pouder, mix, and in a Crucible covered and luted, proceed as in *cap.* 14. *ſect.* 3. following, ſo will you have a fine Sky-color. Or, ℞ Rock Cryſtal prepared ʒx. *Æs Uſtum* ℥j. gr. xv. mix, and in a Crucible perform the Work as the former.

II. *Another Beryl or Egmarine.*

℞ Pouder of Rock Cryſtal ʒx. fine Salt of Tartar (in *cap.* 9. *ſect.* 10.) ʒx. Salt of Vitriol ʒlx. all being in fine Pouder, ſearced and mixed in a Braſs Mortar, proceed as in *cap.* 14. *ſect.* 3. following.

III. *Another deeper Beryl or Egmarine.*

℞ Prepared Rock Cryſtal ʒx. fine Verdigriſe ℥iij. ℈j. fine Salt of Tartar ʒxiij ſs. mix all in a fine Pouder in a Braſs Mortar, and proceed as before, *cap.* 14. *ſect.* 3.

CHAP. XI.

To make a Chalcedony.

I. *TO make an* Aqua Fortis *for this Purpoſe.*

℞ Roch Alum calcined on a Fire-ſhovel ℔xv. refined Nitre ℔v. Cryſtaline Arſenick ʒxx. all being in fine Pouder, add to it fine Sand or Lime ʒxxxv. mix, and in a Glaſs Cucurbit make an *Aqua Fortis*, diſtilling to dryneſs. To every pound of the *Caput Mortuum* add refined Nitte, mix and put it into the Cucurbit, and affuſe thereon all the before diſtilled *A. F.* and diſtil again. This *A. F.* is called Water of Separation, and is that which is fit for our Uſe. *Note*, Some inſtead of the Roch Alum, take the beſt *Roman* Vitriol, ſuch as if it is rubbed

rubbed on a piece of well poliſhed Iron, will leave a Copper color behind it. This *Roman* Vitriol ought to be purified by diſſolving in fair warm Water, letting it ſtand 3 days, that the yellow Fœces may ſettle: then decanting the clear Liquor, filtrating it, evaporating and cryſtalizing, and repeating this Work of diſſolving, filtering and cryſtalizing 3 times.

II. *To make a fair Yellow Præcipitate.*

1. ℞ Of the aforegoing *A. F.* ℔ij. put it into a Bolt-head; and put to it fine Silver in Filings or thin Plates ʒiv. and in a gentle Sand heat or warm Water, diſſolve, which will be inſtantly done. 2. ℞ *A. F.* (at *ſect.* 1.) ℔ſs. put it into another Bolt-head; and put into it Quick-ſilver ʒvj. mix and diſſolve. 3. Put both theſe Solutions together in a third Bolt-head much greater, add to it *Sal Armoniack* ʒvj. diſſolve over a gentle Fire, or in B.M. *viz.* warm Water. 4. Then add to it *Zaffer* prepared ʒj. *Manganeſe* prepared ʒſs. *Ferretto* of *Spain* ʒſs. put them in by little and little, for fear of breaking. 5. Add to theſe things *Crocus Martis* made with Sulphur (in *cap.* 6. *ſect.* 6.) ʒj. Scales of Copper thrice calcined, (in *cap.* 7. *ſect.* 11.) which ought to boil like *Manganeſe* ʒj. blew Lake which Painters uſe, *Minium*, of each ʒj. the whole being in fine Pouder. 6. In putting in theſe Pouders, gently ſhake or ſtir the Glaſs, that they may the better incorporate with the *A. F.* and let there not be too much heat; ſtop the Matraſs cloſe, digeſt 10 days, ſtirring it every day, that the Pouders diſſolving may yet præcipitate. 7. Evaporate the *A. F.* in a gentle Sand Furnace in 24 hours; ſo will you have a yellow Præcipitate, which keep in a Glaſs cloſe ſtopt for Uſe.

III. *To make a fair Chalcedony in Glaſs.*

℞ White Cryſtal Glaſs well purified, or which has been often melted ℔xx. which put into a Pot and melt it: of the former yellow Præcipitate ʒiij. put it in at 3 times, mixing it well after each time, that the Præcipitate may well incorporate: let it ſtand an hour, ſtir it well again, and let it ſtand 24 hours: after ſtir it again the laſt time, and make an Eſſay, to ſee whether it gives a yellowiſh Azure color: if right, take the Pot out and let it cool; ſo will you have Colors repreſenting the Waves, and ſeveral other Appearances. But if you would have it a fair Chalcedony, you muſt put into the former

former melted Metal, this Mixture. ℞ *Calcined Tartar calcined to whiteneſs in 6 hours* ℥viij. *Soot purified* ℥ij. Crocus Martis *calcined with Sulphur* ℥ſs. *mix them well:* let it be put in at 5 or 6 times, leſt it ſwell violently and break the Pot, which is avoided by putting it in by little and little, ſtirring it well each time, that the Ingredients may well incorporate: make the Pot boil, and let it ſtand 24 hours, and then you may work it. It will be green, blew, white, red, yellow, and of other colors, *&c.* looking on it obliquely, it will look red like Fire; and if held to the Sun, it will have by Reflection the colors of the Rain-bow, being poliſhed at the Wheel. If it is pale, you muſt add to it more of the laſt Mixture, ſtirring it well, *&c.* It is uſed for Princes Heads, Cups, making Seals, *&c.* becauſe being graven, the Wax will not ſtick to it.

IV. *To make an Orange Tawney Præcipitate.*

1. ℞ *A. F.* ℔j. put it into a Glaſs Matraſs; to which put Filings or granulated Silver cupulated ℥iv. diſſolve. 2. ℞ *A. F.* ℔j. put it into another Glaſs Body: add purified Quick-ſilver ℥v. diſſolve. 3. ℞ *A. F.* ℔j. put it into another Glaſs Body; to which put *Sal Armoniack* ℥ij. mix and diſſolve: after it is diſſolved, add to it *Crocus Martis* made with *A. F.* (in *cap. 6. ſect. 9.*) *Ferretto* (made as in *cap. 6. ſect.* 4.) Copper calcined (in *cap. 7. ſect. 9.*) Leaves of Copper or Braſs calcined (in *cap. 7. ſect.* 8.) of each ℥ſs. all being in Pouder, put it in by little and little, leſt the Veſſel ſhould break. 4. ℞ *A. F.* ℔j. put it into another Glaſs Body; to which put *Sal Armoniack* ℥ij. being diſſolved, add *Gradatim*, crude Antimony, blew Enamel which Painters uſe, red Lead, Vitriol well purified, *ana* ℥ſs. all being in fine Pouder. 5. ℞ *A. F.* ℔j. put it into another Glaſs Body; and put to it Sal Armoniack ℥ij. being diſſolved, add to it *Zaffer* prepared ℥ij. Cinnabar ℥j. thrice calcined Copper (in *cap. 7. ſect.* 10.) ℥ſs. all being in fine Pouder, put it in by little and little, for fear of breaking. 6. ℞ *A. F.* ℔j. put it into another Glaſs Body: Sal Armoniack ℥ij. being diſſolved, add Ceruſe ℥ij. by little and little, becauſe it makes a great Fermentation: then add Painters red Lake, Scales of Iron from the Anvil, *ana* ℥ij. putting them in *Gradatim*. 7. The Solutions of the Materials being done, in about 12 days time, put all toge-

ther

ther into another large Matraſs well luted, ſhake them well together; and putting on a Glaſs-head, in a gentle Sand heat, draw off the *A. F.* in about 24 hours time: towards the end, let the Fire be very gentle, leſt the Pouder is ſpoiled by too much heat. This Pouder keep in a Glaſs cloſe ſtopt for Uſe.

V. *To make a Chalcedony finer than the former.*

℞ White Glaſs or Cryſtal ℔20. melt it well in a Pot; and put thereto of the former yellowiſh red or orange Tawney Præcipitate ʒiij. or more, ſtirring and digeſting till it is perfect, as we have before directed.

VI. *To Purify Sea or Common Salt.*

℞ Salt *q. v.* diſſolve it in fair warm Water *q. ſ.* let it reſt 24 hours, decant the clear from the Fœces, and evaporate to dryneſs in a Glaſs Veſſel or Cucurbit: diſſolve again, and evaporate to dryneſs; and this continue till no more Fœces ſettle, ſo is it purified and prepared.

VII. *To make a Green-yellow Præcipitate.*

1. ℞ *A. F.* ℔j. put it into a Glaſs Matraſs, and put to it Leaf Silver ʒiv. mix and diſſolve. 2. ℞ *A. F.* ℔j. Quick-ſilver purified with Salt and Vinegar till its blackneſs is gone ʒv. mix in a Glaſs Matraſs, and diſſolve. 3. ℞ fine Silver in Filings or Leaves ʒiij. amalgamate it with Quick-ſilver, (as Gold-ſmiths do) add to it the full weight of common Salt purified: mix, and over hot Coals evaporate the Mercury, the Silver remaining purified and calcined at bottom. 4. Add to this calcined Silver an equal weight of Salt purified, (at *ſect. 6.*) mix well together, and in a Crucible calcine anew; free the Calx from the Salt, by waſhing in warm Water; after boil it in fair Water, which do 3 times, and then dry it. 5. ℞ *A. F.* ℔j. put it into a Matraſs, and put to it the former Calx of Silver, ſtop the Veſſel and let it diſſolve. 6. ℞ *A. F.* ℔j. put it into another Matraſs: Sal Armoniack purified ʒiij. (*viz.* diſſolved and filtered till it leaves no Fœces) fine Silver Calx ʒij. mix them. 7. ℞ *A. F.* ℔j. Sal Armoniack ʒij. being diſſolved, put into it *Crocus Martis* made with Sulphur, (in *cap. 6. ſect. 6.*) Cinnabar, Ferretto of *Spain*, (in *cap. 6. ſect. 4.*) Ultramarine, *ana* ʒſs. all being in Pouder, put it in *Gradatim*, and ſtop the Matraſs. 8. ℞ *A. F.* ℔j. purified Sal Armoniack ʒij. being diſſolved, add to it *Crocus Martis*,

(in *cap.* 6. *ſect.* 7.) Putty or calcined Tin, Zaffer prepared, Cinnabar, *ana* ʒſs. put it in *Gradatim.* 9. ℞ *A.F.* ℔j. Sal Armoniack ʒij. diſſolve, and add Copper Leaves calcined (in *cap.* 7. *ſect.* 8.) ʒj. Scales of Copper thrice calcined, (in *cap.* 7. *ſect.* 11.) *Piedmont* Manganeſe prepared, Scales of Iron falling from the Smith's Anvil in Pouder, *ana* ʒſs. all being in fine Pouder, mix *Gradatim.* 10. ℞ *A.F.* ℔j. Sal Armoniack ʒij. mix and diſſolve: add to it Scales of Copper thrice calcined (in *cap.* 7. *ſect.* 11.) ʒj. red Lead, crude Antimony, *Caput Mortuum* of Vitriol purified, (in *cap.* 7. *ſect.* 5.) *ana* ʒſs. mix *Gradatim.* 11. ℞ *A.F.* ℔j. Sal Armoniack ʒij. diſſolve, and add to it Orpiment, white Arſenick, Painters Lake, *ana* ʒſs. being in Pouder, mix *gradatim.* 12. All theſe Compoſitions being well diſſolved in the Waters over a gentle Sand heat, or in B.M. and digeſted 15 days in the ſame heat, ſtirring them often every day, then put all that is in each Matraſs together into a great Glaſs Body, by little and little; mix well, and unite them together: digeſt well cloſe ſtopt for 6 days; and afterwards, in a Glaſs Cucurbit well luted, draw off in a gentle Sand heat the *A. F.* to dryneſs, letting the Fire be very gentle towards the end, for fear of ſpoiling the Colors, and that ſome of the Spirits may remain in the Præcipitate, which will be of a green yellow.

VIII. *To make a Chalcedony, much ſurpaſſing the former two in Beauty.*

℞ Purified Glaſs Metal, or bits of fine Cryſtal (not Frit) ℔20. being melted, put into the Pot of the former Præcipitate ʒiij. and add to it, in its due time, calcined Tartar ʒviij. Soot purified ʒij. *Crocus Martis* made with Vinegar (in *cap.* 6. *ſect.* 7.) ʒſs. obſerving all that we have ſaid in *ſect.* 3. above, after which you may work it, being of an extraordinary Beauty, beyond Expectation.

CHAP.

CHAP. XII.

Paſtes for an Oriental Chryſolite.

I. *AN Oriental Chryſolite.*

℞ Rock Cryſtal prepared ʒ20. *Minium* in fine Pouder ʒ80. or lbv. *Crocus Martis* made with Vinegar (in *cap.* 6. *ſect.* 7.) ʒij. mix all well together, put it into a Crucible, and into the Furnace, leaving it a little longer there than you do in others, that it may be purified from the Lead; ſo have you a Paſte for an Oriental Chryſolite, which will appear wonderful, ſet with a foil in Gold.

II. *Another way.*

℞ Pouder of Rock Cryſtal, (in *cap.* 9. *ſect.* 9.) *Saturnus Depuratus, ana* ʒ10. *Crocus Martis* prepared ʒj. all being in fine Pouder and well mixed, put them into a Crucible, which cover and lute, obſerving the ſame Orders in the Boiling or Baking as in the former; ſo will you have a delicate green Chryſolite color.

III. It is to be noted, That what the Ancients called a *Topaz* or *Chryſopas*, which is a Gem, green and diaphanous, with a Gold Luſtre, our Modern Jewellers call a *Chryſolite*, becauſe ſome of them have a great Reſemblance one of another. It is a Stone very hard, and will not eaſily endure the File; and ſometimes pieces of it have been found big enough to make Statues of 6 foot high; as that made in Honor of Q. *Arſinoe*, Wife of *Ptolomeus Philadelphus*.

CHAP. XIII.

Of making fair Oriental Diamonds.

I. *THE firſt way of making Diamonds.*

℞ Prepared Cryſtal in Pouder (in *cap.* 9. *ſect.* 9.) q. v. fill a Pot with it, put it in a Glaſs-houſe Furnace 12 hours, to be melted and purified: put it into cold

Water, dry and reduce it again to Pouder: add to that Pouder its equal weight of our pure refined Salt of Tartar, (in *cap. 9. ſect.* 10.) mix them well, and make little Pills or Balls thereof, with fair Water: wipe them, and put them into an Earthen Pot, over a ſtrong Fire, to grow red hot without melting for 12 hours: then put them into a Pot in a Glaſs-houſe Furnace, to melt and purify for 2 days: after which put the Matter in the Annealing Furnace, to cool *gradatim:* break the Crucible, and you have a pure Maſs for Diamonds, which cut and poliſh at the Wheel.

II. *The ſecond way: To make the Diamond of* Alanſon.

Put Filings of Steel into an Earthen glazed Pot, with ſome Vinegar *q. v.* in which place, one by another, Cryſtals cut and poliſhed: put common Water gently on it; warm and boil for 12 hours, adding freſh boiling Water as it conſumes: then ſee if the Cryſtals have obtained the color and hardneſs you deſire; if not, continue the Fire ſome hours longer, and they will be like the true *Alanſon* Diamonds: poliſh them again at the Wheel, to give them Beauty and Brightneſs.

III. *The third way: To Harden Cryſtal and* Alanſon *Diamonds.*

℞ *Dutch Trepoli*, make a Paſte of it with Smiths Forge Water: in this wrap up the Cryſtals you deſign, cut and poliſh, put them in a Crucible, which cover and lute over a gradual Fire, let it ſtand till the Pot is red hot: after a while take it out, and take the Stones and poliſh them at the Wheel, to give them their Color and Water. To ſet them, take *Indian* Paper and Leaves of Tin like thoſe put behind Looking-Glaſſes, and they will be difficult to diſcern from thoſe which are true.

IV. *The fourth way: To Harden Cryſtal and* Alanſon *Diamonds.*

℞ Fine Barley Meal, mix it with *Petroleum*, and make a Paſte: cut it in the middle, and put all your Stones into it, but ſo as they may not touch one another: cover them with the other half of the Paſte, put the Maſs into a Crucible covered with another, and well luted together: when dry, ſet it in a gradual circulary Fire for 6 hours: for the firſt 2 hours, let the Fire be ſmall, and then encreaſe it from 2 to 2 hours to the end of the 6 hours.

hours. Let all cool of it ſelf; break the Crucible, and your Stones being repoliſht at the Wheel, will be very beautiful, fine, clear, ſhining, and ſparkling like excellent Diamonds.

V. *The fifth way: To Harden Cryſtals and* Alanſon *Diamonds.*

℞ Load-ſtone, Quick-lime, *ana* ℔j. Sulphur ℔ſs. all in Pouder; mix them well: with this Pouder cement Cryſtals and *Alanſon* Diamonds well cut, in a Crucible, laying them S. S. S. cover and lute it well: being dry, ſet it in a Glaſs houſe Furnace 3 days, in a continual red hot heat, but ſo as it may not melt: afterwards take not out the Crucible at once, but let it cool gradually, leſt the Stones break. Break the Crucible, take out the Stones, and poliſh them again at the Wheel, and they will be very beautiful, ſhining and ſparkling, reſembling Diamonds of the old Rock, ſcarcely to be diſtinguiſht from true ones. This is a great Secret.

VI. *The Sixth way: To Extract the Tincture, and make very fair and hard Diamonds of* Jargons *of* Auvergne.

1. You muſt boil theſe Stones in a Pot of Mutton Suet; ſo will they looſe all their red color, and become white. 2. ℞ Emery, ſulphureous *Tripoli*, Pumice-ſtone, Cryſtal, *ana* all in fine Pouder, and ſearced thro' a fine Sieve: make a Paſte of it with Brandy, and therewith cement your *Jargons*, laying them S. S. S. in a great Crucible; cover it with another, and lute them well: being dry, put them in a Furnace over a gentle Fire for half an hour; then encreaſe it till it is hot enough for Fuſion; in which leave the Crucibles for 14 hours: let the Fire go out, and the Crucible cool of it ſelf: then break it, and your Stones will be fine, hard, ſhining and ſparkling, and of a true Diamond color, ſo exact, that Goldſmiths and Jewellers have been cheated with them. 3. The ſulphureous *Tripoli* is thus made: ℞ *Crude Antimony*, Tripoli, *Sulphur*, ana: *grind them impalpable on a Porphyry; make them into a Paſte with Vinegar; which being dry, reduce into Pouder for the former Uſe.*

VII. *The ſeventh way: To change a White Saphir into a true Diamond.*

℞ Pure fine Sand, waſh it in Water till it is perfectly clean, and dry it: fill a Crucible half full of it, then

put in your Saphir, and fill it up with the ſame Sand; cover the Crucible with a Cover of the ſame Earth, lute the whole with good Lute, laying it an Inch thick, and dry it in the Shade: then ſet it in a Glaſs-houſe Furnace, ſetting it nearer and nearer to the Fire by degrees, leaving it 12 hours in the ſame degree of heat: take it out gradually in the ſpace of 6 hours, and let it cool eaſily: when cold, break the Crucible, and you will find your Saphir of the fineneſs, ſhining and hardneſs of a Diamond, ſeeming (when poliſhed at the Wheel) even to ſurpaſs Nature.

VIII. *The eighth way: Another way to turn a White Saphir into a true Diamond.*

℞ Leaf Iron and wrap up your Saphir in it: then take fine Gold *q. ſ.* flux it in a Crucible in an ordinary Wind Furnace: when it is in good Fuſion, put in the Saphir covered with the Leaf Iron or thin Plate, ſo that it may float on the Gold, and ſink into it: give it a ſtrong Fire for 12 hours, the Gold being all the while in Fuſion: then with a ſmall pair of Tongues take out the Saphir, ſhaking off the Gold which may hang to it, let it cool gently, for fear of breaking; ſo will you have a Saphir, having all the Perfections of a true and natural Diamond; poliſh it at the Wheel, and work it. The ſame may be done with fine Silver.

IX. *The ninth way: Another Method to turn a White Saphir into a true Diamond.*

Fill a Crucible half full of Filings of Iron or Steel, put in your Saphir, and fill up the Crucible with more Filings, ſo as to be wholly covered. Set the Crucible in the Furnace, and give it a good Fire, that the Filings may be red hot without melting: when it has been in ſome time, take it out with a pair of Tongs, and ſee if it is right colored; if not, put it into the Filings again; and repeat this Work till it is perfect. The ſame may be done with equal parts of Filings, and white Enamel in Pouder, being made into a Paſte with Spittle, and well dryed, putting the Saphir in the middle, *&c.*

CHAP.

CHAP. XIV.

Paſtes for an Oriental Emerald.

I. *TO make an Oriental Emerald.*

℞ Of the Paſte in *cap.* 5. *ſect.* 22. ʒx. Verdigriſe prepared ʒſs. Ferretto of *Spain* (in *cap.* 6. *ſect.* 2.) ʒſs. all being in fine Pouder, mix together, put it into a Crucible, cover it with another, lute it and dry it: ſet it in a Glaſs-houſe Furnace for 3 days; and after in the Annealing Furnace for 12 hours: then break the Crucible, and you will find the Maſs tinged of a very fine Oriental green color, which then cut and poliſh.

II. *Another way.*

℞ Of our Cryſtal ʒx. prepared *Sal Tartari* (in *cap.* 9. *ſect.* 10.) ʒxſs. *Crocus Martis* ʒſs. all being made into a fine Pouder in a Braſs Mortar, put it into a Crucible, which cover with another, lute them together, and put them into a Glaſs-houſe Furnace for 24 hours; and then into an Annealing Furnace for 12 hours, to cool *gradatim:* then take it out, cut and poliſh it, and it will be a right Emerald.

III. *A Paſte for Oriental Emeralds.*

℞ Rock Cryſtal prepared (in *cap.* 9. *ſect.* 9.) ʒx *Minium* or red Lead ʒxx. poudred and ſearced: fine Verdigriſe well beaten ʒſs. *Crocus Martis* with Vinegar prepared (in *cap.* 6. *ſect.* 7.) gr. xl. mix all well together, put it into a ſtrong Crucible able to reſiſt the Fire, leaving an Inch or more empty: cover it with an Earthen Cover, lute it well and dry it: put it in the hotteſt place of a Potters Furnace, and let it ſtand as long as their Pots: when cold, break the Crucible, and you will find *a very beautiful Emerald, which when Poliſht and ſet in Gold, will ſurpaſs in Beauty the true Oriental.* You muſt make Tryal whether it is fine and pure enough; if not, you muſt put it into the Furnace again till it is enough: and this you may know by lifting up the Cover; if it appears ſhining, it is well; if not, you muſt lute the Cover on again, and put it into the Furnace as before, till it is throughly boiled and purified: if you break the Crucible before it is enough, and then put it into another

Crucible, your Paſte will be painted, diſcolored and full of Bliſters.

IV. *Another deeper Emerald.*

℞ Rock Cryſtal prepared (in *cap. 9. ſect. 9.*) ℥iv. *Minium* ℥xiij. Verdigriſe prepared ℥ijſs. *Crocus Martis* (in *cap. 6. ſect. 7.*) gr. xx. mix well together, and proceed exactly as in the former *ſection*, only here, letting the Matter ſtand longer in the Fire; ſo will you have an excellent Oriental Emerald, which being ſet with a foil of the ſame Metal in Gold, will be admirably fine and fair.

V. *A fairer Paſte for Emeralds.*

℞ Rock Cryſtal prepared (in *cap. 9. ſect. 9.*) ℥ij. *Minium* ℥vij. Verdigriſe gr. xviij. *Crocus Martis* gr. x. all being in Pouder, mix well and proceed as we have directed in *ſect. 3.* aforegoing; ſo will you have an Emerald fit for ſmall things, but not ſo hard as the former, becauſe of the great quantity of Lead in it: keep it long in the Fire, that the pale color of the Lead may vaniſh.

VI. *Another fairer Paſte for Emeralds.*

℞ Rock Cryſtal prepared *ut ſupra* ℥ij. *Minium* in Pouder ℥vj. fine Verdigriſe in Pouder gr. viij. mix all well together, put them into a large Crucible, which cover and lute well, put it into the ſame Furnace as before, following the Directions in *ſect. 3.* above, *&c.* This will much ſurpaſs the former.

VII. *Another Paſte very fair.*

℞ Rock Cryſtal prepared *ut ſupra* ℥iv. red Lead, fine Verdigriſe ſearced, *ana* ℥ij. mix all together, and proceed as in the former at *ſect. 3.* leaving the Crucible 36 hours in the Fire: after which you may caſt the melted Maſs into a Marble Mold heated, and put it near the Fire to cool gently; ſo will you have a beautiful Emerald, far harder and finer than any of the former, becauſe it has leſs Lead.

VIII. *An Obſervation.*

If you have not a Potters Furnace near at hand, you may contrive one your ſelf, which may hold 20 Crucibles at once, of as many differing Matters and Colors, ſo that one Labour may ſerve for many Works: but in heating your Furnace, you ought to uſe dry hard Wood, (as in boiling the Glaſs) and continue the Fire 24 hours; in which ſpace your Work ought to be finiſhed, but for certainty

certainty ſake, you may continue the Fire for 6 or 8 hours longer, and then it will be boiled enough; which being cold, and poliſhed at the Wheel, and ſet with a foil in Gold, will exceed the true Oriental Emerald.

CHAP. XV.

Paſtes for an Oriental Granat.

I. A *Paſte for an Oriental Granat.*

℞ Rock Cryſtal prepared (in *cap.* 9. *ſect.* 9.) ℥ij. *Minium* ℥vj. Manganeſe prepared gr. xvj. Zaffer prepared gr. ij. all being in Pouder, mix them, put the whole into a Crucible, which cover and lute, and proceed as directed in *cap.* 14. *ſect.* 3. aforegoing: ſo will you have a Granat as fine and reſplendent as the truly Oriental.

II. *Another deeper Oriental Granat.*

℞ Rock Cryſtal *ut ſupra* ℥ij. *Minium* ℥vſs. Manganeſe prepared (in *cap.* 3. *ſect.* 1.) gr. xv. all being in Pouder, mix them well together, and wholly proceed as directed in *cap.* 14. *ſect.* 3. only leave more empty ſpace in the Crucible, becauſe the Maſs here riſes more; ſo will you have not only a deeper, but a fairer and more beautiful Oriental Granat than the former; which poliſh, *&c.*

III. *A Paſte making yet a fairer Granat.*

℞ Rock Cryſtal *ut ſupra* ℥ij. *Minium* or rather Vermilion, in fine Pouder ℥vj. Manganeſe of *Piedmont* prepared gr. xxxvj. Zaffer prepared gr. iv. mix all well together, and put them into a Crucible, leaving a greater ſpace than in any of the others, becauſe the Matter riſes more, and proceed exactly as in *cap.* 14. *ſect.* 3. ſo will you have a very fine Granat, more beautiful than any of the former.

IV. *An Obſervation.*

There are ſeveral ſorts of *Granats*, (as there are of *Emeralds* and other Gems) both *Oriental* and *Occidental*, ſome deeper than others, which Jewellers and Goldſmiths know how to diſtinguiſh by ſetting them on Silver Foils: but this is to be noted, That a *Granat* is very like to a *Carbuncle*, for both being expoſed to the Sun, they

they give the color of live burning Coals, which is the exact color of Fire, being a mean between Red and Yellow.

CHAP. XVI.

Paſtes for an Oriental Jacynth.

I. A *Paſte for a fair Jacynth.*

℞ Rock Cryſtal Pouder *(ut ſupra)* ℥ij. *Minium* ʒv. Sublimate ʒſs. Verdigriſe fine gr. xlviij. Leaves of Silver N°. xij. all being made into fine Pouder in a Braſs Mortar, and ſearced thro' a fine Sieve, mix them well together and put into a Crucible, which cover with another, and well lute them: boil and purify in a Glaſs-houſe Furnace for 12 hours: take it out, and being cold, pouder and ſearce it again, and put it into a new Crucible, covering and luting it well, and ſet it again in a Glaſs-houſe Furnace for 24 hours; and afterwards 12 hours more in the Annealing Furnace: when cold, take out the Maſs, cut and poliſh it, and it will be of a delicate Jacynth color.

II. *Another fairer Jacynth.*

℞ Of our Cryſtal in Pouder (in *cap. 9. ſect. 9.*) ℥ij. *Minium* ʒvj. Verdigriſe fine ʒjſs. mix all well together, being made into Pouder, in a Braſs Mortar, and ſearced: put them into a Crucible, cover and lute it, and proceed exactly as in the former; ſo will your Gem be admirable.

III. *Another Oriental Jacynth.*

℞ Rock Cryſtal *(ut ſupra)* ℥ij. *Minium* ʒvj. Arſenick prepared as for the *Topaz* ℥ij. Vitriol calcined to redneſs ℥ij. all being made into a Pouder in a Braſs Mortar and ſearced, proceed as directed in *ſect.* 1. above; ſo will you have a very fine reddiſh yellow Jacynth, ſuch as are the truly Oriental.

IV. *To make Jargons of* Avernia *(which are called falſe Jacynths, when they are of an ill color) to be red and like the true natural Jargon.*

Make a Pouder of equal parts of purified Sal Armoniack,

ack and Tartar calcined to whiteneſs; being in fine Pouder, mix them well, and put your Jargons into a Crucible, laying them S. S. S. beginning and ending with the Pouder: put the Crucible into a good Coal Fire, but not ſo hot as to melt the Stones, but only to be red hot,. that they may be only penetrated by the Pouder: then let it cool, and you will have your Jargons very fine, and of a red and ſhining color like a Jacynth, but full as good as the beſt colored Jargons.

CHAP. XVII.

Paſtes for making Artificial Pearls.

1. *THE firſt way, to imitate Oriental Pearl.*

℞ Thrice diſtilled Spirit of Vinegar ℔ij. *Venice* Turpentine ℔j. put all into a Glaſs Cucurbit with its Head and Receiver, luting well the Joynts; and in a gentle Sand heat draw off the Vinegar. Put this Vinegar into another Glaſs Cucurbit, in which hang quantities of Seed Pearl ſtrung on a ſmall Silver Wyre, and done about with a piece of very fine Silk: put on the Cucurbit a blind Head, lute it well, and digeſt 14 days in B. M. ſo will the heat elevate the Fumes, and make them circulate about the Pearl, bringing them to the Conſiſtence of Paſte: then take them and mould them up in what form you pleaſe, round or longiſh, or Pear-like, and as large as you deſire, making them in proper Silver Moulds: bore them through with a ſmall Silver Wyre or Pin, and ſo let them dry a little: thread them again in Silver Wyre, and ſet them in a Glaſs cloſe covered, to dry throughly to a perfect hardneſs: then put them into a Glaſs Matraſs, in a Stream of running Water for 20 days, and they will come again to their firſt Solidity and Strength. Now, to make them Splendid and Oriental, you muſt take the Pearls, ſtring them on Silk, and hang them in a Glaſs Veſſel wherein is *Aqua Mercurii*, ſo they will become humid, ſwell and retrieve their Oriental Luſtre: take them out of this Water, and put them into a Matraſs, which Seal Hermetically, and

ſo

ſo put it down into the bottom of a Well, leaving it there for 8 or 10 days: then draw it up, and take them out, and you will find them beautiful and ſplendid, and as good even as Oriental Pearls themſelves.

II. *The ſecond way.*

℞ Oriental Seed Pearl *q. v.* make them into impalpable pouder on a Porphyry: diſſolve in *Aqua Mercurii* or clarified Juice of Limons, in a Cucurbit in a gentle Sand heat: what Cream or Skum appears at top, carefully take off as it ariſes: take the Veſſel from the Fire, let the Matter ſettle a little, and decant the Liquor gently into another Glaſs Body, and the Pearl will be in a Paſte at bottom. With this Paſte fill your Silver Moulds, made to what form and bigneſs you pleaſe, preſſing in the Paſte (not with your Fingers, but) with a Silver *Spatula*, ſo ſhut them up 24 hours, after which bore them through with a Silver Pin or Wyre, cloſe up the Moulds, and put them into an Oven in Barley Dough, which when half baked, take out and open, taking away the Pearl; and then ſteep them in the above decanted Liquor, putting them in and out ſeveral times: cloſe them again in their Moulds, and bake them again in like Dough as before, only let this be almoſt burnt up before you draw it out; ſo will your Pearls be well hardned. Open the Moulds and take out the Pearls, ſtring them on Silk, and ſteep them in *Aqua Mercurii* for 14 days: put them into a Glaſs Body, ſtop it cloſe, and dry them well in the Sun; ſo will they be fine and ſplendid.

III. *The third way.*

℞ Oriental Seed Pearl ground impalpable *q. v.* diſſolve it in Alum Water: decant the clear, and the Pearl Paſte will be at bottom: waſh it in diſtilled Rain Water, and digeſt it 14 days in Horſe-dung or in B. M. then take out the Veſſel, and the Matter being reduced to the Conſiſtence of a Paſte, form it in your Silver Moulds, bore them with a Silver Wyre or Pin, ſtring them on a fine Silver Wyre, and hang them in a cloſe ſtopt Glaſs Alembick, that the Air may not ſpoil them: thus dryed, Silver them one by one with Leaves of Silver ſplit up a Barble, lay them in it without touching one another; cloſe up its body, which put in Paſte of Barley Meal, and bake it with a Batch of Bread, and no more: draw it out, and let them dry: if they be not hard

hard enough, you muſt bake them again. To give them Tranſparency and Splendor, firſt heat them, and then cool them in the following Water, repeating this heating and cooling 6 or 7 times. ℞ Seed Pearls ʒvj. Litharge of Silver, Nitre, Roch Alum, *ana* ʒj. Water *q. ſ.* boil over a gentle Fire 2 or 3 hours; and the Water is prepared for the former Work. But, if yet your Pearls ſhould not be hard enough, you muſt once more bake them in the following Paſte. ℞ Impalpable Pouder of *Lapis Calaminaris* ʒij. Oil of Vitriol ʒij. Water of Whites of Eggs ʒij. mix all in a Retort, luting thereto a Receiver; diſtil to dryneſs in a Sand heat, and you will have a Spirituous Water; with which and Barley Meal or Flower, make a Paſte, in which put your Pearls, and bake them as before; ſo will they be very hard, and reſume their original Orient Beauty.

Obſervations.

IV. *To make the* Aqua Mercurii *afore-mentioned.*

℞ Putty or Tin calcined very fine and pure ʒj. Quickſilver purified ʒij. mix and make an Amalgama: waſh this with fair Water till it comes off clear and colorleſs: then dry it perfectly, put it into a Matraſs, with ſuch a degree of heat as is neceſſary for Sublimation: when ſublimed and cold, take out the Sublimate, to which add *Venetian* Corroſive Sublimate ʒj. grind them well together on a Porphyry: put them into another Matraſs, cloſe it very well and ſink it all over in a Veſſel of Water; ſo in a ſhort time the whole Maſs will be reſolved into Water: this filter into a Glaſs Receiver, and coagulate on a gentle Sand heat to a cryſtaline Subſtance: this reduce in a Mortar to a very fine pouder, which ſearce thro' a fine Sieve, put it into a Matraſs, ſtop it well and digeſt in *B. M.* to be reſolved into Water, which keep for Uſe.

V. *To whiten and make Oriental, ill-colored Pearl, ſuch as are ſpotted, dull, brown, red, or of a dark yellow.*

This is performed, 1. By cleanſing and ſoaking them in Bran Water made by boiling two handfuls of Wheat Bran in a quart of Water; and the Pearls being ſtrung, to put them into a third part of this Water almoſt boiling hot, letting them lye therein till almoſt cold; and then

then gently to rub them with your Hands; and repeating this Work with the other two thirds of the Water remaining. 2. By putting them in fair Water Blood warm, and washing them clean in it from the Bran Water, and drying them (without handling) on a Sheet of white Paper. 3. By steeping them 24 hours in the former Mercury Water.

VI. *Other ways to Whiten and Cleanse them.*

1. ℞ Impalpable Pouder of Alabaster, and rub the Pearl very gently with it; and let them remain in it for some days. 2. Impalpable Pouder of white Coral or Chalk will do the same thing. 3. Tartar calcined white to rub them withal, and lay them for some time in it, is very effectual. 4. Bay or Ile of May Salt dissolved, filtered and coagulated, then dryed and ground small, is a singular thing for cleansing and blanching of Pearl, rubbing them therewith for some considerable time.

VII. *The natural Oriental Pearls are generated in a Fish whose Shell is Mother of Pearl*, and they are found in the *East*, the best and most beautiful being of a Silver white and exceedingly splendid, being found in the *Persian* Gulph, about the Isle of *Ormus*, *Bassora*, &c. and some in the *West Indies* nearly as fair. There are *Occidental* ones also found in our *Oysters*, the best of which are seldom of any better color than that of Milk: these are found in *Europe*, not only in the Sea, but in fresh-water Rivers, and come from *Scotland*, *Bohemia*, *Silesia*, *Lorrain*, *Frisia*, &c, but those from *Frisia* are very small.

CHAP. XVIII.

Other ways of making Artificial Pearls.

I. *THE first way.*

Dissolve Mother of Pearl in Spirit of Vinegar, then præcipitate it with Oil of Sulphur *per Campanam* (not with *Oleum Tartari*, for that takes away the Splendor) which adds a Lustre to it; dry the Præcipitate, and mix it with Whites of Eggs, of which Mass you may make Pearls of what largeness you please, which before the

they be dry, bore through with a Silver Wyre; ſo will you have Pearls ſcarcely to be diſcerned from thoſe which are truly natural.

II. *The ſecond way.*

℞ Chalk, put it into the Fire, letting it lye till it breaks: grind it impalpable, and mix it with Whites of Eggs; of which form Pearls, boring them as aforeſaid; dry them, then wet and cover them with Leaf Silver.

III. *The third way.*

℞ prepared Crabs Eyes ground into impalpable pouder, and with Glair make Pearls; which bore as aforeſaid: dry them, and boil them in Cows Milk: then in the Shade (free from Duſt) dry them well; they will pleaſe.

IV. *The fourth way.*

℞ Potters Earth, and make them of what form your pleaſe: dry them in the Sun, or in the gentle heat of a Furnace: then wet them with Glair of Eggs, lightly colored with Bole Armoniack, and cover them with Leaves of Silver, being firſt wet with Water: when they are dry, poliſh them with a Tooth, and they will be Oriental. Then take bits of Parchment, and waſh them in warm Water till the Water grows ſomewhat thick, boil and ſtrain it, and uſe it warm: then faſten each Pearl through its hole upon a fine piece of Wyre, and plunge them into the Water of Parchment, taking them out again: then turn them round, that the glewy Liquor may equally cover them: thus the Silver Whiteneſs will the better ſhine through, ſo that the Pearls will ſeem to be truly natural, and being compared, will rather exceed.

V. *The fifth way.*

Calcine Muſcle and Snail Shells in a Crucible till they are very white, even as Snow; with Glair make Pearls, which bore by *ſect.* 1. dry them in the Sun, dip them in red Wine, dry them again, and they will be fair.

VI. *The ſixth way.*

℞ Sublimate ℥ij. Tin Glaſs ℥j. mix them, and ſublime them together, and you will have a Sublimate not inferior to the beſt Orient Pearls in the World; of which, with Glair, you may form what you pleaſe.

VII. *The ſeventh way.*

℞ Any of the aforeſaid Particulars, and mix them (inſtead of Glair) with Varniſh (made of Gum

Anima,

Animæ and the *Alcool* of Wine) of which make Pearls: theſe will in all Reſpects be like the natural; for theſe will no more diſſolve in Water than the truly natural; which all thoſe that are made of Glair of Eggs are unavoidably ſubject to.

VIII. *The eighth way.*

After Diſſolution, Præcipitation, Edulcoration, Siccation and Formation, put the Pearls into a Loaf of Bread, and bake it in the Oven with other Bread ſo long, till the Loaf is much burnt: then take them out and waſh them, firſt in good Juice of Limons, then in clear Spring Water; and they will be as fair as the truly natural. Or, after baking, give them to Pidgeons to eat, keeping them cloſe up, and in the Dung you will find the Pearl exceeding fair: where note, you muſt give the Pidgeons nothing to eat in 3 days time.

IX. *The ninth way.*

After Diſſolution of ſmall Oriental Pearls in Juice of Limons, make the form thereof with clarified Honey, moiſtning your Hand with *Aqua Mellis*: this done, perfect them as before.

X. *The tenth way.*

℞ Filtrated Juice of Limons, Pouder of Pearl, of each ℥vj. Talck ℥j. put them into a Glaſs, and ſtop it cloſe, ſet it 15 days in Horſe-dung, and it will be a white Paſte; of which form Pearls, bore them, and dry them in the Sun; at laſt in Paſte of Barley Meal (*viz.* a Barley Loaf) 4 Fingers thick, ſtick the Pearl ſo that they may not touch, ſtop the holes, and cover them with Paſte: ſet it into an Oven and bake it with Bread, and you will find them hard and clear.

XI. *The eleventh way.*

Having formed them of the Matter intended, bored and dryed them, put them into Quick-ſilver, ſet over a glowing heat, ſtirring them well about, that the Quick-ſilver may ſtick to them: then dip them into Glair of Eggs upon a glowing heat, and they are done; or being dry, boil them in Linſeed Oil, and waſh them in warm Water.

XII. *The twelfth way.*

℞ Pearl ℥iij. prepared Salt ℥j. filtrated Juice of Limons, ſo much as will cover them 4 Fingers breadth: let it ſtand ſo long till it be a Paſte; the Glaſs being very

very close stopped, shake all together 5 or 6 times a day; and when it comes to Paste, put it into a Glass with strong Spirit of Vinegar, and lute another Glass over it; digest it 3 Weeks in a cool place under the Earth so long, till all be dissolved: then mix it with a little Oil of Eggs or Snail-water, till it be like Pearl in color: then put this Paste into Silver Moulds, and close them up for 8 days; after which take them out, and bore them by *sect.* 1. and put them again into the Mould for 8 days: this done, boil them in a Silver Porringer with Milk: lastly, dry them upon a Plate in a warm place, where neither Wind nor Dust may come, and they will be much fairer than any Oriental Pearl.

XIII. *The thirteenth way.*

After the Preparation of the Matter in Juice of Limons or *Spir. Nitri*, with clean Hands make them into Paste, and wash them in distilled Water; which put into edulcorate Calx of Silver, and digest in Horse-dung for a Month; so will they be fair and very Oriental.

XIV. *The fourteenth way.*

Dissolve the Matter in *Spir. Nitri*, (which let overtop it a Fingers breadth) in a Glass Gourd, till all be incorporated into one Body; which put into Silver Moulds which have holes through them, and having stood one day, bore them through the holes as they lye in the Mould, with a Silver Needle: being quite dry, take them out, put them into a Glass close covered in the Sun, till they be quite dry: then put them upon a Silver Wyre, and let them lye covered in their own Fat (that is, that fatty Substance which swims on the top of the *Menstruum* in their Dissolution) so long, till they are very fair; then being strung, put them into a Glass Egg, and let them stand 9 days in Digestion, and they will be as fair as the natural.

XV. *The fifteenth way.*

Of Tobacco-pipe Clay, of which form little Beads, (by *sect.* 14.) dry them in the Sun, and burn them in a Potters Furnace, then cover them with Bole Armoniack, tempered with Whites of Eggs: being dry, dip them in Water, lay on Leaf Silver; which dry again, and polish them with a Tooth: then take clean Shavings of Parchment, cut small, and washed well with warm Water: boil them in a new Pot with a slow Fire, till

they become ſomewhat thick, ſtrain it; and being warm, put in the Pearl upon a Needle or fine Wyre, that the hole may not be ſtopt, take them out, turn them round that the Water or Glew may not ſettle in one place, dipping them ſo often (drying them every time) till they be thick enough, and they will appear full as fair as the truly natural.

XVI. *The ſixteenth way.*

℞ The impalpable and Snow-white Calx of Talck and with our beſt Varniſh make a Paſte; of which form Pearls, and bore them with a Silver Wyre, on which let them dry: this done, make a Mixture of the Alchool of the incomparably pure red diaphoretick Mercury, Calx of Talck aforeſaid, ſhell Gold and Silver, (in *lib.* 2. *cap.* 21. *ſect.* 1.) in a juſt and due proportion, (as by many Tryals you may find out) in which roul your Pearls till they be all over perfectly covered, then varniſh them with our aforeſaid Varniſh, which let dry according to Art, and if need be, poliſh with the impalpable pouder of Putty and Water.

XVII. *The ſeventeenth way.*

℞ Mercury and the fineſt Pewter, of each ℔j. make an Amalgama, which waſh ſo well till the blackneſs is gone: make it into little Cakes, and lay them on a Marble Stone: then take Mercury ſublimate in very fine pouder ℔ij. and ſtrew it upon the Cakes, put them on a Glaſs Diſh, and ſet them in a very moiſt Cellar to diſſolve into an Oil, which rectify by a Glaſs Helm in *Balneo Mariæ*, and ſo there will be drawn off by a gentle Fire a Mercurial Water. Then take of the beſt ſmall Oriental Pearls ℥j. put them into the Mercurial Water, and in 2 or 3 days they will be reduced to a Paſte, which, in a Silver Mould, you may form into Pearls of what bigneſs you pleaſe. At the ſame time you muſt hole them with a Silver Wyre: then put them, when they are moulded, into a new Crucible, but ſo that they touch not one another; the top of the Crucible being well covered and luted cloſe; ſo ſet them in a Glaſs makers Annealing Furnace till they be very hard, which will be in a little time. Afterwards make a Pye of Flower, let it be very thick, and take the hardned Pearls putting them on a Silver Wyre, and ſo fix them in the Pye, that they touch not any part of it, nor one another

Laſtly

Lastly, put the Pye, made close up, into an Oven of Bakers Houshold Bread, and let the Pye stand all the time that the Bread is baking; after which you will find the Pearls to be as well colored as the best Oriental.

XVIII. *The eighteenth way to make Artificial Pearls.*

℞ The best *Spir. Nitri* ℥ij. corrosive Sublimate ℥ss. mix, dissolve, and let it boil a little on a Ash heat; take it from the Furnace, let it cool, and stand in the Vessel to the open Air 2 or 3 Nights, and it will shoot into Crystals very fair: wash them in fair Water twice, to free them from the *A.F.* and only the Crystals remain. Put the Vessel with these Crystals for some days into Horse-dung, till they dissolve into Water; which keep for Use. Then take Oriental Pearls, put them into a course Linnen Bag, tying it with a Thread a cross, allowing them good store of room: hang this Bag in the Neck of a Vessel, in the bottom whereof is Juice of Limons or Lime Juice: let it boil for 6 hours, so that the Fumes may go about the Vessel; take out the Bag, and you will find the Pearls soft as Wax, and in a kind of Paste. Have ready a Silver Mould, and your Pearls being in it, bore a hole with a Silver Needle; put them to harden in a Vessel of Glass, so as they may neither touch the Glass, nor be exposed to the Air: afterwards put them for 8 days in the above-said Water, then change the Water, and let them lye 8 days longer in more of the same Water, to give them a Lustre: after which take them out, and dry them well upon Glass.

XIX. *The nineteenth way to make Artificial Pearls.*

℞ The fairest Seed Pearl, bruise them, and dissolve them in Alum Water; this is all the Secret: make them into a Paste, and wash it gently with some distilled Water: afterwards make it up into a Paste of a good body with Bean Flower Water, and digest in Dung for 15 days. Now, having the Consistency of Paste in a Silver Mould, form it into Pearls, and pierce them with a small Silver Wyre: hang them in an Alembick close stopt, that the Air may not alter them: after which roul each one a part in Leaf Gold, (or Leaf Silver) cleave a Barble in the middle, and put them therein: make a Paste of the said Barble with Wheat Flower, and bake it in an Oven as you bake Bread. If they have not Lustre

enough, take ſome diſtilled Water, and pouder of Pearl ℥vj. Salt-petre ℥j. Roch Alum and Litharge of Silver ℥ij. the Pearls being made, you ſhall heat them a little, and quench or cool them in this Compoſition, then dry and waſh them, repeating this 5 or 6 times. Then, to harden them, take *Lapis Calaminaris* in pouder, Vitriol, of each ℥j. Glair of Eggs *q. ſ.* mix, and diſtill from them a clear Water; which, with fine Barley Flower, make a Paſte of, in which put your Pearls, to be baked in an Oven.

XX. *The twentieth way.*

℞ Pure Chalk freed from all its Groſſneſs and Sand, make a Paſte thereof, and form it into Pearls in a Mould for that purpoſe: pierce them thro' with a ſmall Silver Wyre, and dry them in the Sun or in an Oven: ſtring them on a Silver Wyre, color them over lightly with fine Bole diluted in Glair of Eggs, with a Pencil and fair Water, and apply Leaf Silver over all and let them dry; which done, burniſh or poliſh them with a Woolf's or Boar's Tooth till they ſhine well. To give them the true color; *Boil Parchment or Vellom Shavings (being firſt clean waſht in warm Water) in Spring Water to a Glew or ſize thickneſs, ſtraining it whilſt hot.* In this Glew, being warm, and on a flat Veſſel, dip your String of Pearls, ſo as all may be done equally over, and then let them dry. If they be not yet perfect, dip them once more; ſo will they have a very fine and tranſparent Whiteneſs, a certain Darkneſs within, and a Luſtre without, which perfects them, and brings them to the Beauty of fine and real Pearls: but in this laſt Caſe, if inſtead of this Glew you dip or varniſh the Beads after they are ſilvered, with a white Varniſh deſcribed in the next Book, and ſo poliſh them, they will not only be fairer, but more durable, like true Pearl.

XXI. *To Whiten Pearls.*

℞ Common and Roch Alum ℔j. *Solomon's* Seal ℥ij. Camphir ℥ſs. diſtil therefrom a clear Water, and rectify it, and uſe it with a ſoft fine Linnen Cloth. *Or thus, which is better,* Take white Salt ℔j. conſound Water, Alcohol of Wine, of each ℥xij. Lime, Eggs, of each ℥j. Bean Flower ℥ſs. mix and diſtil them. *Or thus,* Waſh them in a *Lixivium* of burnt Tartar, and keep them on a warm Stove. *Or thus,* Take Water a quart, Wheat

Bran

Bran 2 handfuls: boil, and then decant half the Water; and in a white Ware Porringer, in which ſhall be the Pearls ſtrung, pour in the ſaid Bran Water, and let them lye till the Water is almoſt cold, that you may rub them gently with your Fingers till the Water is perfectly cold: caſt away that Water and put on freſh; and this Work ſo often repeat till your Pearls are very pure and fair: at laſt put in ſome of the ſaid Bran Water warm, and clear the Pearls without rubbing or touching them; which repeat the ſecond time; and ſo put the ſaid Pearls, without touching or unſtringing them, upon white Paper; put them in a Cellar without covering them, letting them remain there 24 hours.

CHAP. XIX.

Paſtes for Oriental Rubies and Carbuncles.

I. *Paſtes for an Oriental Rubie.*

℞ Of the Paſte (in *cap.* 5. *ſect.* 22.) ℥x. *Crocus Martis* (in *cap.* 6. *ſect.* 7.) of our Vitriol (ſome ſay Mercury) calcined, *ad Rubedinem*, *Sal Gem*, *ana* ℥v. fine Verdigriſe ℥ijſs. all being in fine pouder and well mixed together, put it into a Crucible, which cover and lute: put it in a Glaſs-houſe Furnace for 3 days; after that take it out, and put it in an Annealing Furnace for 12 hours, to cool *gradatim*; ſo will your Matter be of a fine Rubie color, which cut, poliſh, *&c.*

II. *Paſtes for a Balaſs Rubie.*

℞ Of the Paſte (in *cap.* 5. *ſect.* 22.) ℥xij. *Crocus Martis*, Vitriol (but ſome ſay Mercury) calcined *ad Rubedinem*, *ana* ℥j. *Sal Gem* ℥ſs. all being in very fine pouder, mix them well together, and proceed as in the former *Section*; ſo will you have a Maſs of the fine color of a Balaſs Rubie, which is very bright, reſembling a Vermilion and Crimſon Roſe, being mixt of a natural Red and a Sky-color.

III. *Paſte for a Carbuncle.*

℞ Of the Paſte (in *cap.* 5. *ſect.* 22.) ℥x. *Crocus Martis* (in *cap.* 6. *ſect.* 10.) ℥ſs. mix all well together, being in fine

pouder, put into a good Crucible, cover and lute it well: put it into a Glaſs-houſe Furnace for 3 days, putting it *gradatim* into a ſtronger and ſtronger Fire, till it is in the ſtrongeſt: then taking out the Crucible, take the Maſs out, and grind it very fine in a Marble Mortar with its equal weight of *Sal Gem*; put it into another Crucible, cover and lute it as before, and put it into the ſame degrees of Fire *gradatim* as before: ſet it ſtand 24 hours in a good Fuſion; then take it out, and put it 12 hours in an Annealing Furnace to cool gently: break the Crucible, and you will find the Maſs of a fine Carbuncle color; which being cut and poliſhed at the Wheel, will ſeem to be perfect.

IV. *A Paſte for Carbuncles, much more glorious than the former.*

℞ Of the Paſte (in *cap.* 5. *ſect.* 22.) ℥x. Gold calcined ℥j. all being in fine pouder, mix them well together, and put it into one of the ſtrongeſt Crucibles, not letting it be half full: cover and lute it well; and when dry, put it into a Glaſs-houſe Furnace for 3 days, bringing it nearer and nearer to the ſtrongeſt Fire by degrees: after 3 days take out the Pot, and put the Maſs into a Marble Mortar, make it into impalpable pouder, to which add an equal weight of *Sal Gem* in fine pouder alſo: mix all well together and ſearce thro' a fine Sieve, the better to mix them. Put this pouder into a new ſtrong Crucible, ſo big as not to be half full, cover, lute and dry it, and put it into the ſame Furnace as before, bringing it neare to the ſtrongeſt Fire *gradatim*, where let it ſtand 10 hours: then take out your Crucible and put it into the Annealing Furnace, letting it cool for 12 hours. Break the Crucible and you will find the Maſs tinged of a noble Carbuncle color, the moſt lively, reſplendent and glorious that any Stone can be endued withal. This cut and poliſh at pleaſure; it is illuſtrious beyond all Compariſon with other Gems.

V. *The Calcination of Gold for the former Work.*

℞ Fine Gold in little bits ℥j. *Aqua Regis* ℥iij. mix and diſſolve: then add to it Quick-ſilver purified and paſs'd thro' Leather ℥iv. ſo will the Gold præcipitate, joining it ſelf to it: when the *A. R.* is clear, ſo as that it has no more Gold in it, decant it off, and waſh the Præcipitate with warm Water, to take off the Salts; the Præ-

cipitate

cipitate being dryed, add to it *Flores Sulphuris* an equal weight, mix them well together, put all into a Crucible, covering it with another Crucible, having a hole bored in its bottom, lute them together and dry them: put them into a circulary Fire, which give them by degrees for 4 hours, the Crucibles being the laſt hour covered all over with Coals, which let kindle and cool again. Open the Crucible, and you will find the Gold calcined: amalgamate it now with freſh Quick-ſilver ℥iv. adding to it *Flores Sulphuris* ℥v. mix all well, put it into a Crucible as before, luting, drying and calcining in like manner; and this Work repeat the third time: after which put it into a deep white glazed Earthen Baſon or Gally Pot: affuſe thereon Spirit of Wine ſo as to over-top it 2 inches, which deflagrate: then edulcorate with warm Water diſtilled, and dry it; ſo have you a pure fine impalpable Calx of Gold, which keep for the Purpoſe afore-mentioned.

VI. *The Rubie is a truly natural Gem, Diaphanous and very Radiant, of the color of Blood, Scarlet, and tranſparent Lacca*, having about the edges of its Fire, a little Azure color, and is found in the Iſle of *Ceilon*, and in the River *Pegu*, in a Rocky Matter of a Roſie color; which Rock Matter, if it is tranſparent, yields the Balaſs Rubie: Rubies, by reaſon of their Fineneſs and Largeneſs, have been taken for Carbuncles, ſo that ſome have miſtook them one for another, but they are truly two different Subſtances.

VII. *As for the Carbuncle*, whether it be a *Gem* found in the Bowels of the Earth, is yet undetermined: the moſt credible Authors affirm the contrary, againſt all that the Ancients have ſaid of it; for that no ſuch thing is now to be found in the World; and ſome boldly ſay, that it is a Stone not at all formed by Nature, but only made by Art; and that made by Art is far more precious and glorious, and filled with a more illuſtrious Splendor than any Nature can form; for that by Art you may in a few hours time make ſimple Rock Cryſtal as valuable as any Stone which Nature can produce, and which ſhe ſpends ſo many Ages in bringing to Perfection. And, as we are perſwaded, (from the reading of Authors) that there is no ſuch natural Stone as a Carbuncle; ſo we believe, that if any ſuch be in the World

indued with ſuch an illuſtrious Shining and Glory, that they muſt be *only the Products of Art, not of Nature:* and ſuch a one is this laſt, which far ſurpaſſes in Beauty *Granats, Jacynths, Rubies,* or whatever Nature has yet produced.

CHAP. XX.

Paſtes for an Oriental Saphir.

I. A *Paſte for a Saphirine Color.*

℞ Rock Cryſtal prepared (in *cap.* 9. *ſect.* 9.) ℥iv. *Minium* ℥ix. Painters blew Smalt gr. lij. all being in fine pouder, put them into a Crucible, cover and lute them well; put them into a Furnace and boil or bake as directed in *cap.* 14. *ſect.* 3. and in other places; ſo will you have a beautiful Violet color, drawing near to Blew.

II. *Another Oriental Saphir.*

℞ Rock Cryſtal *(ut ſupra)* ℥iv. *Minium* ℥xij. *Zaffer* prepared (in *cap.* 4. *ſect.* 10.) ℈j. ℈j. *Manganeſe* prepared gr. xij. all being in fine pouder, mix, and proceed as in the former; ſo will you have an Oriental Saphir of a pure Violet color, more beautiful than the former.

III. *Another Oriental Saphir much deeper.*

℞ Rock Cryſtal *(ut ſupra)* ℥iv. *Minium* ℥x. *Zaffer* prepared ℈j. gr. xxiv. *Manganeſe* prepared gr. xvj. all being in an impalpable pouder, mix, and proceed as in *cap.* 14. *ſect.* 3. and other places; ſo will you have a deeper Oriental Saphir than the former, ſomething tending to a Violet color; which cut, poliſh and ſet in Gold.

IV. *Another Oriental Saphir.*

℞ Of the Paſte in *cap.* 5. *ſect.* 22. ℥x. Calx of Sol (in *cap.* 19. *ſect.* 5.) ℥ij. mix well, and proceed as in *cap.* 19. *ſect.* 1. ſo will you have a fair Oriental Saphir.

V. *Another Violet Saphir.*

℞ Rock Cryſtal prepared (in *cap.* 9. *ſect.* 9.) ℥iv. fine Salt of Tartar (in *cap.* 9. *ſect.* 10.) ℥ivſs. Salt of Vitriol ℥ſs. mix, and proceed as before; ſo you will have a fine Violet Saphir.

VI. *Another*

VI. *Another Violet Saphir yet deeper.*

℞ Rock Cryſtal *ut ſupra* ℥iv. of fine Verdigriſe ℥x. gr. xlviij. of Azure ℥j. gr. iv. Sublimate ℈ſs. all being in fine pouder, proceed as in the former; it will be of a very deep color.

VII. *A blew Saphir of the Male kind.*

℞ Rock Cryſtal pouder *ut ſupra* ℥iv. fine Salt of Tartar ℥iv. ℈j. Salt of Vitriol ℈ſs. fine Verdigriſe gr. xij. Azure gr. iv. mix, *&c.* ſo will you have a blew colored Saphir, no leſs agreeable than thoſe of the Violet kind.

VIII. *Another excellent Saphir.*

℞ Rock Cryſtal *ut ſupra* ℥iv. fine Salt of Tartar (in *cap. 9. ſect.* 10.) ℥iv. fine Verdigriſe ℥ß. gr. xlviij. Azure ℥j. gr. iv. all being in pouder, mix, *&c.* and you'll have a very fine Saphir.

IX. *Another admirable Saphir.*

℞ Rock Cryſtal *ut ſupra* ℥iv. fine Salt of Tartar ℥j. being in pouder, mix well, put it into a Crucible covered and luted: boil 24 hours in a Glaſs-houſe Furnace; then in the Annealing Furnace let it cool 12 hours; ſo will you have an admirable blew Saphir; which cut and poliſh.

CHAP. XXI.

Paſtes for an Oriental Topaz.

I. *A Paſte for an Oriental Topaz.*

℞ Rock Cryſtal pouder (in *cap. 9. ſect. 9.*) ℥iv. *Minium* or red Lead in fine pouder ℥xiv. mix well together; put them into a ſtrong Crucible, leaving it empty about an inch deep, for fear of running over or ſticking to the Cover of the Crucible, which will ſpoil all; and proceed as directed in *cap.* 14. *ſect.* 3. ſo will you have an admirable Topaz.

II. *Another fine Topaz.*

℞ Rock Cryſtal *(ut ſupra)* ℥iv. Native Cinnabar in ſubtil pouder ℥iv. *Æs Uſtium* in fine pouder ℥iv. Putty or calcined Tin in fine pouder ℥xvj. mix well, put all into Crucible, which cover and lute, and put them into

to the Furnace for 30 hours, in a Fire not too violent, (becauſe this pouder will eaſily melt) and always of the ſame degree of heat; ſo will you have a fine Topaz color, *&c.*

III. *A very fine Topaz.*

℞ Of the ſame Cryſtal ʒiv. *Crocus Martis* ʒſs. *Minium* a little: mix, and proceed exactly as in the former.

IV. *Another Oriental Topaz.*

℞ Of the Paſte in *cap.* 5. *ſect.* 22. ʒx. choice Orpiment in fine pouder ʒj. mix them well, put all into a Crucible, which cover, lute well and dry: put it into a Glaſs-houſe Furnace for 3 hours, and then in the Annealing Furnace gently cool; cut and poliſh it, and it will be a delicate Oriental Topaz.

V. *A Baſtard Topaz very beautiful.*

℞ Rock Cryſtal *ut ſupra* ʒiv. *Minium* ʒxij. fine Salt of Tartar *ut ſupra* ʒij. fine Verdigriſe gr. xvj. all being in fine pouder, mix, and proceed as in a Jacynth in *cap.* 16. *ſect.* 1. and you will find your Stone very fine.

VI. *Another Baſtard Topaz, harder than the former.*

℞ Rock Cryſtal *ut ſupra* ʒiv. Vitriol calcined *ad Rubedinem* ʒj. Salt of Vitriol ʒſs. fine Verdigriſe gr. xvj. fine Salt of Tartar (in *cap.* 9. *ſect.* 10.) ʒvſs. gr. xvj. all being made into fine pouder in a Braſs Mortar, mix them: put all into a Crucible, which cover with another, lute them ſtrongly, dry and put it into the Furnace for 12 hours; take it out, cut, poliſh, *&c.*

VII. *It is to be noted,*

1. That the *Topaz* of the Ancients, is the very Stone which our Moderns call a *Chryſolite:* and the *Chryſolite* of the Ancients, is that which the Moderns call a *Topaz.* 2. That *Oriental Topaz's* are indeed the moſt hard of all Stones next to the *Diamond.* 3. That their Color is like Water tinged with *Saffron* or *Turmerick*, but pure, ſhining and diaphanous. 4. That ſome are found in *Europe*, but they are generally ſoft as *Cryſtal*, having ſomething of the Black, with a Golden color. 5. But, that if they be of a pure *Golden* color, they are not to be diſtinguiſhed from the *Oriental*, but by their hardneſs.

CHAP.

CHAP. XXII.

Paſtes for an Oriental Turcoiſe.

I. *Paſte for a Turcoiſe.*

℞ Of the Paſte in *cap.* 5. *ſect.* 22. ʒx. *Zaffer* prepared ʒj. fine purified Verdigriſe ʒſs. all being in fine powder, mix well together, put it into a Crucible, cover it with another, lute well and dry: put all into a Glaſs-houſe Furnace for 3 hours: then put it into the Annealing Furnace for 12 hours to cool gently: being cold, break the Crucible, take out the Maſs, cut and poliſh it, and it will be a *Turcoiſe* like thoſe of the *Old Rock*.

II. *The Name of this Stone comes from the place where it was firſt found*, viz. *Turky:* but now it is alſo brought from *Perſia* and *Indoſtan*, or the *Eaſt Indies*, where it is found in abundance, whoſe Color comes much nearer to *Blew* than *Green*; and which alſo diſtinguiſhes them from the *Occidental*, which are more green and whitiſh.

III. The *Oriental* are called by the name of *Stones of the Old Rock*; the other, *Stones of the New Rock*. The *Turcoiſe* is a mixture of *Blew*, *Green* and *White*, and ſomewhat imitates *Verdigriſe*; and it is without doubt, the fineſt, pureſt and moſt noble of all *Opak precious Stones*.

SECT. III. *Of* ENAMELS.

CHAP. XXIII.

Of Enamels in general.

I. *THE Matter of Enamel.*

℞ Lead in Bullets ℔xxx. Tin in bits ℔xxxiij. mix them, and calcine as directed *cap.* 5. *ſect.* 1. ſearce the Calx, put it into a glazed Earthen Pot full of Water;

ter; put it over a Fire, and let it boil a little: take it off the Fire, decant gently the Water into another Veſſel which carries alone with it the fineſt or Flower of the Calx: reiterate this till no more Flower will ariſe: the remaining Calx calcine again as before; and then with Water extract its Flower as before. Put theſe Waters into one large Body or Veſſel, and over a very gentle Fire evaporate to dryneſs.

II. *The Mixture.*

℞ Of the former prepared Calx ℔xxv. Frit of white *Tarſo* ſearced ℔xxv. (in *cap.* 2. *ſect.* 8. *&c.*) fine Salt of Tartar (in *cap.* 9. *ſect.* 10.) ℥iv. mix all very well together in a Pot, and let it ſtand in a Glaſs-houſe Furnace for 10 hours to meliorate and purify: take it out and reduce it to an impalpable pouder; which keep cloſe in a dry Glaſs for Uſe. Thus is the Matter prepared to receive the Colors, of which we ſhall treat in the Chapters following.

III. *A fixt incombuſtible Sulphur for Compoſitions of Enamel.*

℞ *Florum Sulphuris q. v.* put them into a Glaſs Cucurbit luted at bottom; affuſe thereon Oil Olive to ſupernate 2 inches: put it on a very hot Sand heat for an hour; take it off, and affuſe thereon ſtrong Vinegar; ſo will the Sulphur præcipitate, and the Oil ſwim on the top of the Vinegar: decant off this from the Sulphur, and put on more freſh Oil, and do as before, repeating this Work thrice; ſo will you have a fixt Sulphur for Enamel, but chiefly for red Colors.

IV. *Another fixt incombuſtible Sulphur.*

℞ Soap-boilers ſtrong Lye *q. v.* put into it Flowers of Sulphur *q. ſ.* boil them for a good while; ſo will the Lye cleanſe the Sulphur from its Foulneſs and Unctuoſity, and make it fit for our purpoſe: decant the Lye from the Sulphur, dry it, and it will be white, fixt and incombuſtible.

V. *Now, the Method which Limners uſe, is by a juſt diſpoſure of their Colors*; to effect which, nothing more is required, but a lighted Wax Candle and a hollow Pipe of Metal for that purpoſe, to make a blaze upon the Matter, to make it malleable and ſoft; on which he may draw or impreſs the deſigned Figures at pleaſure.

CHAP.

CHAP. XXIV.

The way of Enameling.

I. *Of Diſpoſing Enamels.*

They are not to be promiſcuouſly applyed to all ſorts of Metal, but according as the Nature of the Metal requires: *Copper* agrees with all *thick Enamels*, but ſpoils the Limpid, unleſs they have a prævious Preparation. *Silver* agrees with *purple Enamel*; ſo alſo with the *Emarine*, the *Azure*, and the *Green*: all other Colors, both Clear and Opak, diſagree therewith. *Gold* agrees perfectly with all, as well with the *Opak* as the *Tranſparent*, excepting only the clear Purple, it mightily changing the color thereof.

II. *The Quality of the Enamel.*

It ought to be hard and durable; for that which is ſoft (being full of Lead) is apt to change color, and eaſily becomes ſullied and foul. The hardeſt is always the beſt, and yet even of them ſome looſe their color in the Fire, and ſome are more or leſs lively and ſparkling: but thoſe which we ſhall hereafter deſcribe in the following Chapters, will have none of thoſe Faults; for being perfectly purified by Fire, they will endure all degrees of Fire without change of Color or Quality.

III. *To make the Furnace.*

1. It may be either round or ſquare, and made either of Iron or Earth. 2. It muſt be hollow in the middle, to hold a good Char-coal Fire round about the Matter, and over it, to make it melt the better. 3. It muſt be ſo ordered, that you may eaſily take your Matter out and put it in again, as need requires. 4. In this caſe, you may for Conveniency ſake uſe a Gold-ſmith's Muffle, which is a ſmall Arch made of Crucible Earth, almoſt like a half Crucible cut longwiſe: this is to be placed on the Plain or Area of the Floor of the Furnace, the opening of it lying juſt againſt the Mouth of the Furnace, to put in and take out the Matter eaſily; over which a ſmall Grate is to be placed, but ſo as not to touch it, for fear of breaking it. 5. Over this Grate a good Fire is to be made, and ſo round about the Muffle, to heat the hollow

hollow very well, under which the Work to be Enamel'd and Painted or Limned is put. 6. If you would make any Eſſays or Tryals, you may do it on a little Iron Shovel, the eaſier to draw out: but making an Eſſay of the Ingredients for Enamel, it ought to be a little blade of white Enamel fitted for the purpoſe.

IV. *The Enameling Fire.*

It ought to be a *Reverberating*, or rather a Fire of *Suppreſſion*, and never to be under the Matter or Work; which thing is eaſy to be conceived, and the reaſon thereof.

V. *To prepare the Enamel for the Metals.*

Take Enamel, (ſuppoſe white) pouder it fine, affuſe on it a little *Aqua Fortis*, let it ſtand, purify and refine in a ſmall Glaſs Cucurbit: waſh it afterwards often in fair Water, dry it, and keep it in a Glaſs cloſe ſtopt for Uſe. To make uſe of it, beat it ſmall in a Stone Mortar, wetting it with a little Water; ſo ſpread it on the Plates, and put it into the Furnace as before. Thus do with all clear and tranſparent Enamels; ſo will your Materials be all in a readineſs when you intend to work.

VI. *To prepare the Colors for Enamel.*

Becauſe Painting on *Enamel* is the moſt glorious of all Painting, you muſt chuſe the livelieſt and moſt noble Colors, and ſuch as will eaſily melt and vitrify. What theſe are, we ſhall teach you in the following Chapters. But, for *Enameling*, you muſt firſt grind them on a Porphyry with the beſt Oil of Spike or Lavender, or mix them with other Matters for that purpoſe as you ſhall think fit to be mixed with calcined *Enamels*, and ſerve to make up the Paint for *Enamel*, mixing them well together as Painters do on their Pallets.

VII. *To make mixt Colors, when others are wanting.*

1. *A Grey.* It is made of a White mixed with Black. 2. *A fair Green.* It is made of a Blew mixed with Yellow. 3. *A fine Violet.* It is made of a Blew and Red mixed together. 4. *A Roſe Color.* It is made of a Red mixed with a White: and ſo of ſome others.

VIII. *The Uſe of Rocaille.*

Moſt Artiſts make uſe of this for varniſhing their Colors, but it has an ill Effect; for, becauſe of its too much Lead, not perfectly ſeparated, it diminiſhes the Life and Beauty of the Work, it always looking dull, cloudy

cloudy and tarniſhed. But, our *Enamel* being well refined, will produce Works ſo fine, beautiful and agreeable, that it is not poſſible for any thing in Nature to exceed them.

CHAP. XXV.

To Enamel on Metals.

I. *THE way to Enamel on Copper.*

Have a Plate of *Copper* poliſhed or forged very ſmooth, and apply your *Enamel* of the color you intend, both above and under the Plate; put this into the Reverberatory Furnace, and when you ſee it receive the Poliſhing, then draw it forth. *Copper* takes all *thick* and *dark Enamels*, but ſuch as are *diaphanous* or *tranſparent*, it will not well endure: in this caſe, you muſt firſt lay a lay of green or black *Enamel*, and over that Leaf *Silver*, that it may be able to receive the *Enamel* you deſign. For *Copper* is ſo impure, that its *Fumes* deſtroy the Beauty of the *Enamel* in the Furnace: nor does *Enamel* ever ſtick ſo cloſely to it, but that it is eaſily divided, ſcaled, peeled or broken off; which never happens to the fine Metals.

II. *To Enamel on Gold.*

Have a *Gold* Plate, (made of fine Gold, becauſe on impure Gold the *Enamel* grows dull and ill-colored, taking away the Life of the *Enamel*) which let be a little refining, and forged very ſmooth: you muſt apply white *Enamel* on both ſides, tho' it is to be wrought but on one ſide; but this is neceſſary, 1. Becauſe the Work is the neater and finer for it. 2. Becauſe, if it was Enameled but on one ſide, the Fire would ſwell it, and make it riſe into Bubbles; and this it is apt to do when the pieces are great, and the *Enamel* careleſsly laid on: this bliſtering and diſfiguring of the Work, is avoided by laying the *Enamel* on both ſides: the firſt lay of white *Enamel* remaining ſmooth, ſerves as a Baſis or Field to place all your other Colors on, as we ſhall anon ſhew. Thick and Opak *Enamel* muſt be diſſolved as it were, and made

made thinner (as in *cap.* 24. *ſect.* 5. above) before it can be applyed: as for the *Tranſparent*, you need nothing but pure fair Water, and then you muſt ſpread it flat and then border it with the Metal, or not border it, the Field being all *Enamel*; but this is troubleſome, becauſe the limpid *Enamels*, as they melt, often mix, and ſo confound the Colors, which always happens when the pieces are ſmall. But red *Enamels* do not ſo, except by chance, and they generally come *yellowiſh* out of the Fire; for as ſoon as it is applyed, the *Gold* alters the color; but you may quickly bring it to a perfect *Redneſs*, by turning it at the mouth of the Furnace when you are taking it out of the Fire, and then it is that the Artiſt makes it *red*, and gives it its true color. And tho' *Gold* admits of all kinds of *Enamel*, *tranſparent* or *opak*, yet bright *purple* is excepted, becauſe it is altered by the yellow color of the *Gold*, and therefore ſucceeds not ſo well here as on *Silver*, on which it ought only to be uſed. The way of working of every kind of *Enamel*, is alike; ſo that we ſhall not make any needleſs Repetitions.

III. *To Enamel on Silver.*

Your Plates of *Silver* muſt be forged like thoſe of *Gold*, ſmooth and riſing a little from the edges towards the middle; and having ſpread the *Enamel* all over on both ſides, only to qualify the riſings and bubblings of the Metal, which would cauſe unevenneſs and a diſagreeableneſs on the Surface: you muſt put the Plate into your little Reverberatory Furnace to melt, and as ſoon as you ſee it poliſht, take it out from the Fire. But, as ſome kind of *Enamel* does not agree with *Gold*, ſo there is ſome other ſort which agrees not with *Silver*: *Silver* makes *white Enamel* to appear *yellow*, and therefore you are to make the leaſt uſe of *white* on this Metal, becauſe it becomes *yellowiſh* and unpleaſing; but you may make uſe of the *white* underneath the plate, for that it there ſerves to qualify the riſings and bubblings of the Metal in the Furnace. On the contrary, *Silver* agrees well with *Blew*, *Egmarine*, *Green* and a bright *Purple*, becauſe the Whiteneſs of *Silver* gives them their true Luſtre and Splendor.

CHAP.

CHAP. XXVI.

The Method of Painting on Enamel.

I. YOur plate of Gold muſt be Enameled with White; which done, you muſt delineate or draw (according to Art) your Deſign thereon: this done, trace or draw over again with a dark Red.

II. *This dark Red is thus made.*

℞ The *Caput Mortuum* which remains after the making of *Aqua Fortis*, from Vitriol and Nitre, and grind it with Oil of Spike or Lavender; ſo have you a dark Red for the purpoſe afore-mentioned. *Or*, ℞ *Crocus Martis* and grind with Oil of Spike or Turpentine; it will anſwer the ſame end.

III. The Picture being perfectly drawn, and the Lines compleat according to the Subject, put the Piece or Tablet on the Muffle in a Reverberatory Fire, to fix, as is before directed.

IV. Then take out the Plate, and apply the Colors in the ſame Method as Limners do, with this only difference, that you make the White ground ſerve for filling up where that Color is required, to ſet off the heightnings and brightneſs of the Light, as is done in *Miniature*.

V. And becauſe it makes much to the heightning thereof, (*viz.* the improving their Light) in other Colors, you ſhall have a moſt excellent Preſcript for that purpoſe in *cap.* 27. *ſect.* 3, 4. following, which will ſingularly ſerve upon this occaſion.

VI. The piece being thus finiſhed, put it again into the Furnace to fix the Colors; and as ſoon as you perceive it to vernish or poliſh, draw it out, leſt the Colors ſhould mix and ſpoil one another; but taking out the Work, you may reviſe it, and this as often as you pleaſe, putting it ſtill every time into the Furnace, to receive its laſt Gloſs or Luſtre.

VII. This way of reviſing and correcting the Tablets, is done by *Limners* and *Painters*; who obſerve, that Pieces are not to be handled till they are well dryed in the Air: ſo in like manner theſe in *Enamel* muſt be let

alone till they receive their Compleatment and Perfection from the Fire.

VIII. This Art of *Painting* on *Enamel*, is almoſt inestimable, for that it is ſo wonderfully beautiful, and ſo infinitely laſting, having ſo natural a Gloſs, and a Glory never to be defaced: and could large Works be done with it, they would be above all Value, becauſe of their perpetual Luſtre.

IX. And, tho' *Painting* on *Enamel* ſeems to be more difficult than *Limning*, yet Experience tells us, that it is equally eaſy, and that any Hiſtory may be repreſented on *Enamel* as well as in *Limning*; only the Colors are not prepared the ſame way: and as in *Limning* the Work is dryed by the Air; ſo in this of *Enameling* we dry and varniſh our *Enamel-Painting* by Fire.

CHAP. XXVII.

Of Milk-white Enamel.

I. A *Milk-white Enamel.*

℞ Of the Mixture (in *cap.* 23. *ſect.* 2.) lbx. *Manganeſe* prepared ʒi. ϑi. mix and put them together into a Pot to melt and purify over a very quick Fire, which will be quickly done: then caſt it in pure fair Water, dry it, and put it into the Pot again to melt: repeat this 3 times, changing the Water. If it is purely white, it is good; if greeniſh, add a little more *Manganeſe* to it till it becomes white as Milk: then make it up in Cakes and keep it for Uſe.

II. We have in *cap.* 4. *ſect.* 12, 13. ſhewed you how to make Glaſs of this color; here we have taught you to do it on *Enamel* with as much Beauty, which ſerves not only for the Baſis, Ground or Field for Painting upon, but is uſed for the Ornaments of Virginity, the Emblem of Innocence, and the Symbol of Candor and Chaſtity.

III. *A White for Painting on Enamel.*

For a white Ground to Paint withal, 1. ℞ the former white Enamel ground into fine pouder; this you are to manage with Artifice, to heighten and illuſtrate your

your Lights, which is neceſſary to be done in all Colors in *Miniature*. 2. ℞ the Mixture in *cap.* 23. *ſect.* 2. or the former white Enamel pouder, cleanſe them with *A.F.* waſh, dry, and afterwards grind with Oil of Spike.

IV. *Or 3ly thus.* ℞ Fine Putty or Tin calcined, let it vitrify in a Glaſs-houſe Pot with 8 times as much Cryſtal Frit: then pouder it fine as we have taught in *cap.* 23. *ſect.* 2. and keep it for Uſe.

CHAP. XXVIII.

Of Black Enamel.

I. A *Black Enamel.*

℞ Of the Mixture (in *cap.* 23. *ſect.* 2.) ℔vj. *Zaffer* prepared ℥iij. *Manganeſe* prepared ℥iij. being in fine pouder, mix all well together: put them into a glazed Earthen Pot in the Furnace for ſome hours: let the Pot be very large, becauſe the Metal will ſwell much: when purified, caſt it into cold Water, and dry it: put it into the Pot again to melt and purify: then, if the Color is good, keep it for Uſe: if not, you muſt put in more or leſs of the coloring Matter, till it is perfect, then make it into Cakes.

II. *Another black Enamel.*

℞ Of the Mixture (*ut ſupra*) ℔vj. *Zaffer* prepared (in *cap.* 4. *ſect.* 10.) *Crocus Martis* made with Vinegar (in *cap.* 6. *ſect.* 7.) *Ferretto* (in *cap.* 6. *ſect.* 5.) *ana* ℥ij. all being in fine pouder, mix them well together, put them into a glazed Earthen Pot in the Furnace to melt and purify: when well digeſted, caſt it into Water, dry it, and put it into the Pot again; let it melt and refine, then take it out, and make it up into Cakes.

III. *Another Velvet black Enamel, finer and fairer than the former.*

℞ Of the Mixture (*ut ſupra*) ℔vi. red Tartar ℔vj. *Manganeſe* prepared ℥iij. all being in fine pouder, mix and put them into a very large glazed Earthen Pot, becauſe the Maſs will ſwell: melt and purify, caſt it into Water, dry it, and put it into the Pot again, making

and purifying as before: make it up into Cakes, and keep it for Uſe.

IV. *A Black for Painting on Enamel.*

1. The former black Enamel levigated with Oil of Spike, makes an excellent Color. 2. ℞ black Enamel of either ſort, Peregrine well calcined, *ana* ʒiv. mix and make an impalpable pouder, then add Oil of Spike; and it will agree excellently with the Enamel.

CHAP. XIX.

Of fine Blew and Turcois Enamels.

I. A *Fine Blew Enamel.*

℞ Of the Mixture (in *cap.* 23. *ſect.* 2.) ℔vj. Zaffer prepared ʒiij. Copper thrice calcined (in *cap.* 7. *ſect.* 11.) ʒj. gr. xij. all being in fine pouder, put it into a white glazed Earthen Pot; when the Metal is well melted, caſt it into Water: dry it, and put it into the Pot again, and let it ſtand till it is well melted, purified and incorporated: take it off and make it up into Cakes.

II. *Another noble Blew.*

℞ Of the Mixture (*ut ſupra*) ℔vj. plates of Copper calcined (in *cap.* 7. *ſect.* 7.) ʒiij. Zaffer prepared ʒj. gr. xij. being in fine pouder, mix and melt as before, caſting it into Water: dry it, and return it into the Pot again to melt, purify and incorporate, then take it off and make it into Cakes.

III. *Theſe glorious Blews* almoſt all People are taken withal, as being the moſt agreeable Sight of all others, their Beauty and Splendor being ſo great and tranſcending all other Colors, they only having the Reſemblance of Heaven it ſelf, for which reaſon the *Romaniſts* eſteem it a Sacred color.

IV. *A Blew Turcois Enamel.*

℞ Of the Mixture (*ut ſupra*) ℔vj put it into a white glazed Earthen Pot, melt and purify it, caſt it into Water, and dry it: put it into the Pot again, melt it, and add to it at 4 times the following Mixture. ℞ *Scales*

of

of Copper thrice calcined (in cap. 7. ſect. 11.) ℥iij. *Zaffer prepared (in* cap. 4. ſect. 10.) ℈iv. gr. vj. *Manganeſe prepared (in* cap. 3. ſect. 1.) gr. xlviij. all being in fine pouder, mix and ſtir the Maſs very well each time with your Iron Hook, that the pouders may incorporate: being well colored, take it out and make it into Cakes.

V. *But this is to be noted,*

You muſt be ſure the color is right good and perfect before you empty your Pot; for it is Experience muſt teach you how to proportion the tinging Ingredients for more or leſs: if the tinging Matter is too exuberant, add more of the Mixture *ut ſupra*; if too faint, add more of the Tincture or tinging Pouder till you ſee the Color compleat and perfect. As this Color is very fine, ſo it is very difficult to make well, and requires much Experience and many Tryals: therefore you are not to be diſcouraged if you fail in your firſt Eſſays, for by continuing to make farther Tryals, you will at length come to do well, and to be able to ſee and know when you are in the right, and when in the wrong.

VI. *A Blew for Painting on Enamel.*

1. ℞ Any of the aforegoing Enamels, purify them with *Aqua Fortis*, and grind them with Oil of Spike as for other Colors: theſe are ſome of the nobleſt which can be uſed for this Work. 2. Take Painters Enamel prepared, put it into a Glaſs Bottle; add *Aqua Vitæ* to ſupernate 4 inches, 4 times a day; ſo will the groſſer parts fall to the bottom: decant the clear Liquor, evaporate the Spirit and dry your Azure, ſo will it be very fine; then grind it on a Marble, and it will be fit for this Work, and far beyond *Ultramarine*; which yet may be made uſe of as Occaſion requires.

CHAP. XXX.

Of Green Enamels.

I. A *Fine Green Enamel.*

℞ Of the Mixture (in *cap.* 23. *ſect.* 2.) ℔vj. put it into a white glazed Pot, let it melt and purify 12

hours: caſt it into Water, dry it, and put it into the Pot again, and let it be perfectly refined: then take Scales of Copper thrice calcined (in *cap.* 7. *ſect.* 11.) ʒiij. Scales of Iron from the Anvil ʒj. gr. iv. all being in fine pouder, mix and put it at 4 ſeveral times into the Pot, ſtirring the Maſs very well, that it may be throughly and equally tinged: if it is right, let it ſtand a while in the Fire, and then make it into Cakes: it is a delicate Green.

II. *Another excellent Green.*

℞ Of the Mixture (*ut ſupra*) ℔vj. *Ferretto* (in *cap.* 6. *ſect.* 5.) ʒij. *Crocus Martis* prepared with Vinegar (in *cap.* 6. *ſect.* 7.) gr. xlviij. all being in fine pouder, mix well and put them into a white glazed Pot, melt and refine: caſt it into Water, dry and put it into your Pot again, and let it refine well: ſee whether the Color is good, then let it ſtand ſome hours longer to refine: if not, add more of the tinging Pouder; and when perfect, let it ſtand a while, take it off and make it into Cakes.

III. *Another very fine Green Enamel.*

℞ Of the Mixture (*ut ſupra*) ℔vj. let it refine in the Furnace, caſt it into Water, dry it and put it into the Pot. Take Scales of Copper thrice calcined (in *cap.* 7. *ſect.* 11.) ʒiij. *Crocus Martis* (in *cap.* 6. *ſect.* 7.) ʒj. gr. iv. being in pouder, mix well and put it in at 3 ſeveral times, ſtirring the Metal with the Iron Hook, to incorporate it: let it reſt on the Fire till it is well refined; and being well colored, take it off and make it into Cakes for Uſe.

CHAP. XXXI.

Of Purple Enamels.

I. *Purple-colored Enamel.*

℞ Of the Mixture (in *cap.* 23, *ſect.* 2.) ℔vj. Manganeſe prepared ʒiij. mix and put them into a white glazed Earthen Pot very large, becauſe of the riſing of the Metal: when melted perfectly, caſt it into Water; dry

dry it, and put it into the Pot again to purify; and if it is well colored, make it up into Cakes and keep it for Uſe.

II. *Another Purple Enamel.*

℞ Of the Mixture (*ut ſupra*) ℔vj. Manganeſe prepared ℥iij. Scales of Copper thrice calcined (in *cap.* 7. *ſect.* 11.) ℥vj. all being in impalpable pouder, put it into a white glazed Pot, melt and let it refine: caſt it into Water, dry, put it into the Pot, melt and refine again; and if the Color is right, take it and make it into Cakes for Uſe.

III. *A Violet-colored Enamel.*

℞ Of the Mixture (*ut ſupra*) ℔vj. Manganeſe prepared ℥ij. Scales of Copper thrice calcined (in *cap.* 7. *ſect.* 11.) gr. xlviij. all being in very fine pouder, mix well, put it into a white glazed Earthen Pot, and proceed exactly as in the former.

CHAP. XXXII.

Of Roſe-colored Enamels.

I. *TO make a Roſe-colored Enamel.*

℞ Cryſtal compound (in *ſect.* 3. following) ℔x. melt it in a glazed Pot in a Glaſs-houſe Furnace; add to it at 4 times red calcined Copper, (in *cap.* 7. *ſect.* 10.) ℥v. ſtirring well the Maſs every time: then put in Manganeſe prepared, (in *cap.* 3. *ſect.* 1.) *Crocus Martis* (in *cap.* 6. *ſect.* 9.) *ana q. ſ.* let it alone to refine for 6 hours: and if the Color is not perfect, put in more *Crocus Martis* by little and little, till the pure Roſe color is compleat and perfect.

II. *Another very fine Roſe Color.*

℞ Of Cryſtal Compound (in *ſect.* 3. following) ℔x. melt it in a glazed Pot in a Glaſs-houſe Furnace: caſt it into Water, melt it over again, and add to it, by little and little, of the Mixture (in *cap.* 23. *ſect.* 2.) ℥iij. ℥vj. ſtirring the Maſs every time to incorporate: let it alone for a while till you ſee it of an Aſh color: when you ſee that, put in no more Mixture, leſt it be too

white: let it refine, and then add to it *Minium* ʒv. purify, refine and caſt it into Water: dry, melt and purify again for 8 hours; after add treble calcined Copper (in *cap.* 7. *ſect.* 10.) ʒiij. ʒvj. crude white Tartar ʒiij. ʒvj. Blood-ſtone in pouder, fixt Sulphur (in *cap.* 23. *ſect.* 3.) *ana* ʒijſs. all being in fine pouder and mixt together, ſtir the Maſs very well that they may incorporate, and ſee if the Color is exact: if too deep, put in a little more *Manganeſe* to make it lighter: if too pale, add more of the laſt Compoſition till you find it perfect, which will be an exceeding fair Color.

III. *Cryſtal Compound.*

℞ Salt of *Pulverine*, *Rochetta* or *Soda* ℔xij. Frit ℔ij. (in *cap.* 2. *ſect.* 8.) mix and pouder finely: put them into Water, ſo much as to make the Maſs into a body like Paſte: make it into ſmall thin Cakes, and in a calcining heat let them remain for 4 days: then make them into impalpable pouder, and add thereto of the Mixtúre (in *cap.* 23. *ſect.* 1, 2.) ℔ij. Tartar calcined white ℔ij. all being mixt and in fine pouder, put them into a glazed Pot in the Glaſs-houſe Furnace to melt and purify: caſt it into Water, dry, melt, purify and caſt it again into Water; which Work repeat the third time, and then keep it for the Uſe afore-ſaid.

IV. *Note*, You muſt always be careful, that if you find any Grains of Lead remaining in the Pot when you caſt the Matter into Water, that you caſt them away, leſt they eat your Pot out at bottom, or break it.

CHAP. XXXIII.

Of Red Enamels.

I. TO *make fuſible Manganeſe.*

℞ *Piedmont* Manganeſe, (for no other will ſerve the Turn) Nitre, *ana q. v.* mix and calcine in an Earthen Pot in a Reverberatory Fire for 24 hours: ſeparate the Nitre from it by waſhing in warm Water; dry it well, and it will be of a red color. To this add an equal quantity of Sal Armoniack: grind them on a Porphyry

Porphyry with diſtilled Vinegar, dry and pouder it; put it into a ſtrong Glaſs Matraſs or Bolt-head to ſublime for 12 hours: break the Matraſs, and mix all the volatile and fixt parts together, adding to it an equal quantity of Sal Armoniack, weighing it exactly: grind, pouder and ſublime as before, and repeat this Work ſo long till the Manganeſe remains fuſible at bottom of the Matraſs; which keep for Uſe. This is that which tinges Cryſtal, makes it red and diaphanous, or tranſparent as a Rubie.

II. *A Blood-red Enamel.*

℞ Cryſtal or common Frit ℔x. Glaſs of Saturn (in *cap.* 5. *ſect.* 2.) ℔vj. all being in very fine pouder, put it into a glazed Earthen Pot in a Glaſs-houſe Furnace, melt, boil and refine: then caſt into it thrice calcined Copper in pouder (in *cap.* 7. *ſect.* 11.) as much as you think convenient: ſtir all well, that they may incorporate; add pouder of red Tartar *q. ſ.* and ſtir till the Maſs becomes as red as Blood: make Tryal and ſee the Color; if it is too pale, put in more of the pouder of Copper and Tartar till it is perfect; ſo will you have a noble, deep, blood-red, tranſparent Enamel, fit for any nice Work.

III. *Another Blood-red Enamel.*

℞ Cryſtal Frit ℔x. *Vitrum Saturni* ℔vj. put them into one of the Glaſs-houſe Furnace Pots, let it melt and puriſy: caſt it into Water, waſh, dry and put it into the Pot again: when melted, caſt into it Pouder of thrice calcined Copper (in *cap.* 7. *ſect.* 10.) ℥v. or vj. which put in at ſeveral times, ſtirring it in with the Iron Crook to mix and incorporate them: add alſo Pouder of red Tartar ℥v. or vj. ſtirring it ſtill: when well boiled and purified, ſee if the Color is right; if not, add again Pouders of Copper and Tartar, *ana q. ſ.* till you find it to be perfect.

IV. *A Red Enamel of a Rubie Color.*

℞ Cryſtal Compound (in *cap.* 32. *ſect.* 3.) ℔vj. fuſible Manganeſe ℔vij ſſ. mix and let the Maſs be well purified: try the Color, and according as you find it, add more or leſs of the Manganeſe or Cryſtal Compound, till it is brought to its juſt Perfection, *viz.* of a very admirable and ſurprizing red color, and of as lively and tranſparent a Luſtre as the moſt ennobled Rubie is poſſible to be of.

V. *A*

V. *A Balaſs-Rubie colored Enamel.*

℞ Cryſtal Compound (*ut ſupra*) ℔vj. put it into a glazed Pot to melt and refine in a Glaſs-houſe Furnace; caſt it into Water, dry and melt again: then add to it of fuſible Manganeſe *ut ſupra q.ſ.* and it will be purple-colored. Add to it Pouder of Alum *q.ſ.* at 8 times, to bring it to a Red; but take heed you put not in ſo much Alum as to blacken it, but only to make it yellowiſh; ſo the Manganeſe vaniſhing, it will become red, of a fine Balaſs-Rubie color.

VI. *Red Paints for Enamel.*

1. ℞ Any of the red Enamels, grind it, and purify it with *Aqua Fortis*: waſh it, dry it, and grind with Oil of Spike for Uſe. 2. Take of the Mixture (in *cap.* 23. *ſect.* 2.) ℥vj. Gold calcined (in *cap.* 19. *ſect.* 5.) ℥iv. Some melt them together, purge with *A.F.* waſh with fair Water, dry, and then grind with Oil of Spike: others only mix them by grinding on a Porphyry, and then grind them together with Oil of Spike as other Colors; but this latter Method is not without Diſpute. 3. Take yellow Rocaille ℥iij. Calx of Gold *ut ſupra* ℥iij. mix, grind and melt them together: purify with *A.F.* waſh, dry; then grind with Oil of Spike for Uſe. Others only mix the Rocaille and Calx together by grinding on a Porphyry, and then grind with Oil of Spike: this way is doubtful; but this Color made with Rocaille, by reaſon of the great quantity of Saturn it contains, always makes the Work dull, foul, unpleaſant and defective. 4. Take Vitriol calcined to Redneſs, and purged with *A.F.* waſh it in fair Water, and grind it with Oil of Spike as before.

CHAP. XXXIV.

Of Yellow Enamel.

I. *To make Yellow Enamel.*

℞ Of the Mixture (in *cap.* 23. *ſect.* 2.) ℔vj. Tartar ℥iij. Manganeſe prepared ℥j. gr. xij. all being in an impalpable pouder, mix well and put it into a glazed Earthen

Earthen Pot large enough for the ſwelling of the Metal; melt, ſtir well and incorporate: caſt it into Water, waſh, dry and put it into the Pot to refine again well. Try the Color; if well, make it into Cakes for Uſe, to be applyed on Silver, not upon Gold, unleſs among other Colors, for that the color of the Gold would be apt to dull and ſpoil it.

II. *A Yellow for to Paint on Enamel.*

℞ Of the former Enamel, mix and purify it with *A.F.* then waſh in fair Water and dry it: afterwards grind it with Oil of Spike on a Porphyry; and it is fit for Uſe.

III. *Note.* As for the Variety of other Colors, we need give no other Directions, but to take the Enamels themſelves, for they are ſo perfectly fine, that other Preparations of Colors are needleſs: and therefore mixing and purifying them with *A.F.* waſhing with fair Water and drying, and then grinding, they are made fit for Painting

IV. Alſo, you may make a Mixture of Colors, by mixing divers colored Enamels together (*as Yellow and Blew Enamels, which make a fair Green:*) then purifying the Mixture with *A.F.* waſhing with fair Water, then drying, and grinding with Oil as before.

CHAP. XXXV.

To make China *Ware, Enamel, Paint, and Gild it.*

I. *TO make the Furnace.*

It is to be made with good Bricks well burnt, or Crucible Earth, and of ſuch Stuff as will beſt endure the Fire: a ſquare Form is beſt, becauſe of the opening, and of what largeneſs you pleaſe, in proportion to the Veſſel you place therein: let it be made with 3 Stories; the firſt and loweſt for the Aſhes, a foot or 15 inches high from the Ground for the Air ſake: the ſecond or middle Story for the Fire, underlaid with a good Iron Grate, and an Opening for the Fuel, which muſt be vaulted like

an

an Oven, about 12 or 14 inches in height, having a hole in the middle of it of the ſhape of the Furnace, whether ſquare or round, and proportionate in bigneſs thro' which the Flame is to paſs to the upper Story: the third, laſt or higheſt Story is to be at leaſt 2 feet high, and its Opening 14 or 15 inches, to put in and draw out the Veſſels, (for in this they are to be put to bake:) the top muſt alſo be vaulted with a ſquare or round hole in the middle, according as the Furnace is ſquare or round; and over this a Funnel is to be put, for the paſſage of Flame and Smoak. A Furnace of this kind made of thick caſt Iron, which may be luted within ſide, and to open and ſhut eaſily with cloſe Iron Doors, would be beſt for this Occaſion.

II. *The Uſes of this Furnace.*

It will ſerve for many Purpoſes beſides this of making *China* Ware; as, to Melt, Calcine, Cement, Reverberate, Anneal, *&c.* becauſe you may have in it all the degrees of Fire, by reaſon of the opening of the lower Story and the Funnel at top; beſides, at each corner you may have a Recorder, which will encreaſe or diminiſh the heat at pleaſure.

III. *To make the Paſte for* China *Ware.*

℞ Oyſter-ſhells made white as Snow, beat them in a Mortar to pouder, grind them on a Porphyry, ſearce and make the pouder impalpable: make this into a Paſte with Gum *Arabick* Water, (an ounce of very white Gum to 3 gallons of Water) in which diſſolve or quench as much Quick-lime as the quarter part of your Pouder weighs; (but moſt uſe fair Lime-water without Gum.) Of this Paſte (being firſt well kneaded and beaten) form all ſorts of Veſſels, according as you deſire: let them be better than half dry before you poliſh them with your ſmoothing Inſtrument of Copper or Iron, and ſo leave them till throughly dry: then glaze them over with white Enamel, prepared as in the next *ſection*; ſo ſet them in the Furnace to bake and be finiſhed: which done, let the Fire go out of it ſelf, take them out and paint them. Put them in to bake a ſecond time, let the Fire go out of it ſelf, and when cold, you may take them out in Perfection.

IV. *To make a kind of Baſtard* China.

This is to be made of a very fine and pure ſort of white Earth,

Earth, ſuch as is our Tobacco-pipe Clay, or finer Earth, if any be, as Whiting; this form into Veſſels as the former, and proceed in all reſpects as is above-directed; which is, in reducing it into fine pouder, making it into Paſte with fair Water, kneading or beating of it, forming it into Veſſels, half drying them, poliſhing and through drying again, glazing, baking, painting and finiſhing them as before, according to Art.

V. *To Enamel* China *Ware*.

℞ The Milk-white Enamel (in *cap.* 27. *ſect.* 1.) grind it very fine as Painters do Colors; put it into a Glaſs Cucurbit, affuſe thereon *A. F.* digeſt to cleanſe it from its Foulneſs, till it becomes fine and tranſparent: decant the *A. F.* waſh the Pouder in Water 2 or 3 times: grind it afterwards with a little very thin Gum-water on a Porphyry, and therewith glaze your Veſſels, both within and without, dry them in the Air, and bake them in the Furnace as before.

VI. *Another way to Glaze them.*

Heat your Veſſels to a Redneſs, and melt the Enamel perfectly well; in which dip the ſmaller Ware, but pour it on the larger, for that they will take up no more than will ſerve them: ſet them by turns in the Furnace, ſtopping it cloſe to avoid the Air, bake them: let the Furnace cool of it ſelf, then take them out, paint them, and bake them over again as before.

VII. *To Paint* China *Ware*.

This is to be done exactly according to the Method in *cap.* 26. afore-going; but much more eaſily, if you only imitate the *Chineſe* groſs and ſlovenly way of doing it: Grind your Colors on a Porphyry with Oil of Spike, and ſo paint with them on your Veſſels, Portraitures, Houſes, Landskips, or any other Story you pleaſe; then bake them over again as before-directed.

VIII. *To Gild upon* China *Ware*.

℞ Tobacco-pipe Clay, or ſome other fit Earth, white or red; grind it with drying Oil upon a Porphyry; and with this trace out your Figures, *&c.* dry it for 2 whole days or more, then apply Leaf Gold upon it, ſhaping the Figures with a Graver: after which put the Veſſels into an Oven after the drawing of the Bread, the heat being no greater than ones Hand can endure, for fear of cracking;

cracking: after 2 or 3 hours take them forth, and the will be finished.

IX. *To make the drying Oil.*

℞ Linseed Oil very fine ℔iij. Litharge of Gold in fin pouder ʒiv. mix and make them boil: then immediatel add Gum *Arabick* in fine pouder ʒvj. to purify it: bo for half an hour or more, after which filter it thro' Linnen Cloth full of clean Sand: let it fall into a Gla Bottle, in which Camphir ʒvj. is before-hand put: shak the Bottle well till the Oil is cold; then insolate for 1 days, and it will be perfectly fine. *The longer it is kep the better it will be.*

X. *Another way to Gild* China.

Moisten the places you would Gild with Gum-wate lightly, then apply your Leaves, letting them dry: an this is enough for simple Gilding. But if you woul have it carved or otherwise figured, you must do it wit a Steel Graver. Take Gold Leaves, moisten them wit Water in which Borax has been dissolved, and strew ove with Crystal-pouder, or Milk-white Enamel made int an impalpable pouder: the Gold being applyed, pre down with Cotton or a Hares Foot; then set the Dis on a reverberatory Fire, that the Enamel may melt, an the Vessel be polished. This will be noble and lively firm and not to be effaced, very Ornamental, and (the Vessel is entirely Gilded) will look as well as fin Gold.

SECT. IV. *Of* Painting GLASS.

CHAP. XXXVI.

Of Painting on Glass in general, and of the Color

I. *To make the Furnace for Painting on Glass.*

You must build it 4 square, of good strong well burnt Brick, two feet and half high, or there abouts. must have 3 Stories; *the first and lowermost is for the Ashe* which

which muſt be 8 or 9 inches high, and muſt have an Opening 6 inches broad, and 6 or 7 deep: *the ſecond or Middle Story* muſt be 9 inches high, having at its bottom a ſtrong Iron Grate; it muſt have an Opening 6 inches broad and 4 inches deep; there muſt alſo be 3 Iron Bars to be laid acroſs, to ſupport a ſtrong Earthen Stove or Pan made of Crucible Earth or Glaſs-houſe Pot Earth, which is to hold and contain the painted Ware, and in which it is to be baked and annealed: *the third and highest Story* muſt be a foot high, with an Opening in the middle before, 5 inches high and 3 or 4 inches broad, to put in and draw out the Ware a baking, and to ſee when it is well done: *in this upper Story is the Stove to be put*, whoſe bottom ought to be an inch and half thick, and from thence up to the brims 9 or 10 inches high or deep: it is to be ſquare as is the Furnace, and have two inches or two inches and half room, clear on all ſides, that the Fire may flame round about it, to bake and anneal the Work, and is therefore to be placed exactly in the middle of the Furnace: there muſt be alſo in the Fire part of this Stove an Opening juſt againſt, and of the ſame ſize with that of the Furnace, for the Conveniency of putting in the Ware, and of taking it out. *This Furnace muſt have a Cover on the top of it, made alſo of Crucible Earth*, and ſquare alſo like the Furnace, having a round hole in the middle of it, and a ſquare hole at each corner. As ſoon as the Stove is full of Ware, the Furnace is to be covered with this Cover, and luted cloſe to the Furnace, that no Air may pierce thro' but thro' the 5 holes, which are the breathing places for the Smoak and Flame.

II. *To make the white Ground for Painting on Glaſs.*

℞ White River Pebbles, calcine them by heating them red hot in a Crucible or Iron Ladle, and quenching in cold Water, repeating this Work 8 times more or leſs; then being dry, beat them to pouder, and grind it impalpable on a Porphyry: add to it a quarter part of Nitre, calcine in a Crucible again; beat, grind and calcine a third time over a gentler Fire than the former, and ſo keep it for Uſe. Take alſo *Gip*, (a kind of Talck found among Plaiſter Mold) bake or calcine it on Coals to a whiteneſs, and reduce it to impalpable pouder. Take of the two former Calces or Pouders, and of *Rocaille*,

ana

ana q. v. grind them all three well together in a hollow plate of Braſs, with Gum-water; ſo is your White prepared for Uſe.

III. *To make a Black.*

℞ Scales of Iron from the Smiths Anvil, grind them for 3 hours on the ſhallow Copper or Braſs Plate, (ſuch as Spectacle-makers uſe to grind their Glaſſes on.) Take of this Pouder, and of *Rocaille*, *ana q. v.* add a little calcined Copper, to hinder the Iron from turning red in the Fire: grind all impalpable, and keep it in a Glaſs cloſe ſtopt for Uſe.

IV. *To make a Yellow.*

℞ Fine cupulated Silver in Leaves, or in Filings, or in thin Plates, put it into a Crucible with Sulphur or Nitre in pouder, laying them S. S. S. calcine in a Furnace; as ſoon as the Sulphur is conſumed, put it out into an Earthen Baſon of Water, beat it to pouder in a Stone Mortar, and grind it with Water on a Pophyry for 6 hours, or till it is impalpable: then add to every ounce of this Pouder of red Oker ℈ix. grind them together for an hour, and keep it for Uſe.

V. *To make a Blew.*

℞ Fine white Sand ℈xij. *Zaffer*, *Minium*, *ana* ℈ij. beat them to a fine pouder in a Bell-metal Mortar: put this Pouder into a very ſtrong Crucible, ſuch as that in *cap. 9. ſect.* 14. cover it and lute well, and being dry, calcine over a quick Fire for an hour: take out the Matter, and beat it again as before: then to ℈xvj. of this Pouder add Nitre in pouder ℈iv. mix, put them into the Crucible, cover and lute it, and calcine for 2 hours in a very ſtrong Fire: take it out, grind it as before, add to it a 6th part of Nitre, and calcine again as before for 3 hours more: then with an Iron *Spatula* red hot, take out the Matter leſt it ſhould ſtick, being very clammy and not eaſily emptied.

VI. *To make a Red.*

℞ Litharge of Silver, Scales of Iron, *ana* ℥j. *Rocaille* ℥iijſs. *Ferretto* of *Spain* ℥ſs. Blood-ſtone beaten to pouder in an Iron Mortar ℥ij. Gum *Arabick* made impalpable in the ſame Mortar, to take off what ſticks of the Blood-ſtone, ℥j. grind the firſt three things upon the aforenamed hollow Braſs for half an hour; then add the reſt, which are yet ſtill to be continually ground, that the

Black-

Blood-ſtone may not be ſpoiled: in grinding add Water by little and little, but only ſo much that the Mullet may rub eaſily, and the Maſs be in a good temper or thickneſs for Painting: this done, put all into a Flint, or other fine Wine Glaſs, and drop on it, drop by drop, ſo much Water as may make it of the thickneſs of a raw Yolk of an Egg, or ſomewhat thinner: cover the Glaſs, let it ſettle for 3 days, and then decant the fineſt of the Colors which ariſe at top into another Glaſs, without troubling the Sediment: let it ſettle again for 2 days more, and decant the fineſt of the Color again: this decanted Matter put into a little Glaſs Matraſs, and in a gentle Sand heat evaporate to dryneſs, and keep it for Uſe: when you uſe it, moiſten it with a little fair Water, and it will be excellent for a Carnation: the other Fœces remaining, which are very thick, are alſo to be dryed for Uſe, and to be uſed as the former with Water, for Drapery, Timber-color, Hangings, Curtains, *&c.*

VII. *A Purple Color.*

℞ Fine white Sand ʒxij. *Minium* ʒiij. *Zaffer*, *Periwinkle* very pure and clean, *ana* ʒjſs. beat all in a Bell-metal Mortar, grind impalpable on a Porphyry, calcine, *&c.* doing all things exactly as is directed in *ſect.* 5. above; ſo will you obtain a fine purple color.

VIII. *A Green.*

℞ Fine white Sand ʒxij. *Minium*, *Æs Uſtum* (in *cap.* 2. *ſect.* 12.) *ana* ʒiij. beat all in a Braſs or Bell-metal Mortar to a very fine pouder, calcine, *&c.* doing exactly as is taught in *ſect.* 5. afore-going; ſo will you have a very excellent Green.

IX. *A Carnation.*

℞ Of the red Color in *ſect.* 6. ʒj. *Ferretto* of *Spain* (in *cap.* 6. *ſect.* 3.) ʒj. *Rocaille* (in *cap.* 5. *ſect.* 23, 24.) ʒj. grind theſe on your hollow Braſs with Gum-water, till it is fit for Uſe.

X. *A dark yellowiſh Red.*

℞ Of the red Fœces in *ſect.* 6. above; *Ferretto* of *Spain* (in *cap.* 6. *ſect.* 3.) Scales of Iron, *ana* ʒij. *Rocaille* ʒiv. grind all well together on the hollow Braſs, moiſtning them with Gum-water till they are made of a fit Conſiſtence; ſo have you a Red enclining to a dark yellow. Other Colors may alſo be produced by mixtion of the

prime Colors, as we hinted in *cap.* 24. *ſect.* 7. afore going.

XI. *To Paint Globes*, &c. *of various Colors.*

Put warm Gum-water into your Globe, *&c.* and rou it therein, ſo as to wet it all over, and ſo pour it ou again: then your Colors being all ready, with or thr a hollow Pipe blow them into your Globe, 1. *Vermili* to repreſent Clouds or Wavings. 2. Pouder of *blew E namel.* 3. Pouder of *Copper Scales.* 4. *Orpiment* in pou der. 5. *Lake* in fine pouder. 6. *Water-Gold* in poud 7. *Leaf Silver* in pouder, together with any other Colo you better like, and what beſt anſwers your Deſign you may blow them to what parts of the Globe, *&c.* yo pleaſe, by directing your Pipe accordingly.

XII. *This done*, take Plaiſter in fine pouder, put good quantity of it into the Globe, *&c.* and ſhake it we all over, before and until the Gum-water is dry; ſo wi it ſtick faſt round about; and what remains looſe ſha it out; ſo will the outſide of your Globe be finely ma bled and colored to Admiration.

XIII. *To make the afore-ſaid Gum-water.*

℞ Fair Water a quart: fine Gum *Arabick*, or rath Mouth Glew, ℥ij. more or leſs: digeſt it in warm Wa ter for 2 or 3 days, then gently boil it till all is melte ſtrain it thro' a Flannel whilſt hot, and keep it for t aforeſaid Uſe.

CHAP. XXXVII.

Preparations of Vegetable Colors.

I. A *Fine Scarlet-colored Lake, or Tincture from Kerm Berries.*

℞ Strong-waters of the firſt running or diſtilling *q.* put it into a Bolt-head: add Roch Alum ℔j. mix an diſſolve: then put in Kermes-berries in very fine po der ℥j. digeſt, ſhaking the Matraſs 2 or 3 times a day after 4 days, decant the Tincture and reſerve it. Ta fair Water *q. ſ.* Roch Alum ℥iv. mix and diſſolve: p this into the former Tincture, to cauſe a Separation

ſtra

ſtrain it thro' a Linnen Cloth, or rather filtering Paper; ſo will the *Menſtruum* paſs, leaving the Tincture or Lake behind: Take it up with an Ivory Spoon, make it up into Cakes and keep it for Uſe. It is an excellent Lake.

II. *Another Lake of the ſame kind.*

℞ Fair Water ℔viij. Wheat Bran ℔iv. Oriental Piraſter ℥ij. Fœnugreek ℥ij. digeſt Blood-warm and encreaſe the Fire almoſt to a ſcalding heat; let it ſtand 24 hours, then decant the *Lixivium* and keep it for Uſe. Take fair Water ℔vj. put it to half the former Liquor, make it begin to boil, and add thereto Kermes Berries or Grains in fine pouder ℥j. beat a little crude Tartar in the ſame Mortar the Berries were beaten in, to take off what hangs upon the Mortar, and add it to the former: when the Liquor begins to boil, take it immediately off and let it cool. Take prepared Shearings of Wool *q. ſ.* put them into the former Liquor, and ſteep half an hour: ſqueeze out the Tincture into another Veſſel by Expreſſion, and do thus till you have gotten all the Tincture: put the Shearings into the laſt Veſſel, ſtirring them about with a ſmall Stick very well: boil all for half an hour over a gentle Fire, otherwiſe the Tincture will be black: then take out the Shearings, put them (being well dryed) into a Veſſel of cold Water: after half an hour decant the Water gently: put freſh Water on again, then preſs and ſpread them in a clean place to dry. Take Aſhes of Aſh, Vine-ſtalks or Willow; affuſe thereon *gradatim* cold Water, and make a pure clear *Lixivium*; warm it and put the Shearings into it, boil it over a gentle Fire, and it will become red: try the Shearings by preſſing them; if they are colorleſs, the *Lixivium* has perfectly extracted the Color: ſtrain all thro' a ſtrong Canvas Strainer by preſſing, to get all the Color out of the Shearings, which are then to be waſht clean, and to be kept for another like Occaſion. Take Roch Alum ℥xij. cold Water *q. ſ.* diſſolve in a Glaſs Body, filter and mix it with the former Tincture: which done, ſtrain all thro' a Linnen Cloth; ſo will all the Liquor go thro' colorleſs, and leave the Tincture, Lake or Color behind. Gather this Lake, and putting it upon Glaſs Plates, dry it over a Sand heat, ſo as to make it up into little Cakes; which dry perfectly and keep for Uſe. You may heighten or

diminiſh the Color, by putting in a greater or leſſer quantity of the Roch Alum.

III. *To prepare the Shearings afore-mentioned.*

℞ The fineſt Shearings of white Woollen Cloth *q. v.* ſteep them in almoſt ſcalding Water for 6 hours: what Scum ariſes take it all off, and ſeparate the Shearings which reſerve. Take Roch Alum ℥viij. crude Tartar ℥iv all in fine pouder: fair Water *q. ſ.* mix and diſſolve: when it begins to boil, put into it of the former Shearings ℔ij. boil half an hour and cool it: take out the Shearings, lay them in fair Water for 2 hours, then preſs them out, dry them, and keep them for uſe.

IV. *To make Tincture or Lake from Brazil.*

This is made exactly as that of *Kermes*, either by the firſt or ſecond way, (by *ſect.* 1, 2. above) only obſerving not to put ſo much Alum to each ounce of Brazil, as to ℥j. of the Berries, for that Brazil contains more Tincture and deeper; ſo that you muſt add the quantity of Alum as you find by Experience and many Tryals is neceſſary. But if you make it the latter or ſecond way, you muſt put a greater quantity of Brazil (than of Kermes-berries) to each pound of Shearings; ſo will you have a fine Lake, leſs changeable and full as rich as that of *Kermes* for Painting.

V. *To make Tincture or Lake of Madder.*

Madder comes generally from *Holland* and *Zealand*, being a Root uſed by Dyers: if it is good, it is red and fairer than Brazil, and gives a better color. You muſt firſt make it into fine pouder, and then you may make the Lake from it by *ſect.* 1, 2, 4. afore-going. It will be a moſt excellent Lake, perfectly fine, and fit for the beſt Performances.

VI. *To make Tincture or Lake from Broom-flowers.*

Make a pretty ſtrong Lye with Pot-aſhes and Quick-lime: put into it Broom-flowers over a Sand heat, digeſt till the Lye has drawn forth the Tincture, and left the Flowers colorleſs: take out the Flowers, add as much Roch Alum as the Liquor will diſſolve, and boil in a Glaſs or glazed Earthen Veſſel, adding to it ſome fair Water; ſo the yellow Lake or Tincture will præcipitate: when the Water is clear from the Color, decant it gently, and affuſe more freſh Water, to waſh it and free it from the Salts and Alum; which waſhing reiterate 2,

3 or 4 times as you ſee need; ſo will the Lake be exceeding fine and bright; ſpread it on pieces of white Linnen or whited brown Paper, and dry it in the Shade on new-baked Tiles; ſo will you have a moſt excellent and admirable yellow Lake for Painting.

VII. *To make Tinctures or Lakes, of Poppies, blew Flower-de-luces, red Roſes, Violets, and all ſorts of green Herbs.*

℞ Of the *Lixivium* (in *ſect.* 6.) *q. v.* put into it any of the former things, ſteeping and boiling ſo much as to extract the Color perfectly *ut ſupra:* decant the *Lixivium*, ſet it over a Fire, and beginning to boil, put into it as much Roch Alum as it will well diſſolve: take it from the Fire, put it into a large glazed Earthen Veſſel: mix with it fair Water; ſo will the Color præcipitate, which being ſettled clear, decant off; then affuſe more freſh fair Water, ſtir it well and let it ſtand to ſettle; decant again, affuſe more freſh Water; and this continue till all the Salts and Alum are ſeparated from the Lake, which will be of the ſame color with the Flowers or Herbs were of from which it was extracted: dry it, and make it into Cakes as the former.

VIII. *Another way to Extract the Tinctures or Lakes, from Poppies, Flower-de-luces, red Roſes, Violets, green Herbs; as alſo from Borrage-flowers, Carnations, Cowſlips, red Coleworts, Flags, Orange-lillies, Mallows, Marigolds, Peach-flowers,* &c.

Put any of theſe into a Glaſs Cucurbit or Matraſs, freſh gathered: upon which affuſe S. V. ſo much as to ſupernate 4 or 5 inches: digeſt with a gentle Sand heat, having luted a blind Head to it; ſo will the Spirits extract the Tincture: decant the tinged Spirits, which put into another Alembick, and with a very gentle *B. M.* draw off the Spirit to dryneſs; ſo will you have the Tincture or Lake at bottom of its original Color.

CHAP. XXXVIII.

Preparations of Mineral Colors.

I. *TO know whether* Lapis Lazuli *is good.*

If it is good, it muſt come from *Perſia* or the

East Indies: Put pieces of the Stone into a good Fire, blowing continually for an hour: if after this they have their first Hardness and Color, they are good; but if they will crumble, they are naught. *Or,* Put some pieces into an Iron Ladle, into a Furnace with a strong Fire, to heat red hot, and then quench them in strong Wine Vinegar: if the Color is good and splendid as before the burning, it is good; otherwise naught.

II. *To Calcine* Lapis Lazuli.

Break the Stone into small bits, put them into a Crucible in a Wind Furncce, or into an Iron Ladle, to reunite: then quench them in Spirit of Vinegar; which Work repeat 7 or 8 times, to prepare them for poudering, and prevent sticking to the Mortar: thus calcined and dryed, pouder it in a Stone Mortar with a Cover on it, and searce it, and keep it for Use.

III. *To make Violet Gum-Water for Grinding* Lapis Lazuli.

℞ Spring Water ℔ij. Honey ℥iij, mix, boil and scum till no more Scum will arise; which reserve. Take choice *Sanguis Draconis* ℥ss. grind it on a Porphyry with some of the reserved Water, till it is impalpable or dissolved; to this add more of the reserved Water, so much as to bring it to a Violet color; which keep close covered for Use. This is to be added to your *Lapis Lazuli* in Gilding.

IV. *To Grind* Lapis Lazuli.

℞ Of the Pouder at *sect.* 2. ℥viij. grind it in a Porphyry Mortar or Stone, adding by little and little some of the former Violet Gum-water: grind them together for an hour or longer, still wetting it, till about ℥iv. of the Liquor is swallowed up; but grind it not too long, lest it loose its Color: this done, dry it in the Shade, and cover it from Dust; when dry, if it easily pouders between your Fingers, it is good; but if clammy, it is from the Honey, and must be purified by Cementation; of which afterwards: but, first you must wash it well with some of the mild *Lixivium,* (in the following *section*) putting in so much as may over-top the Pouder 4 or 5 inches; then wash it well with your Hands, and let it settle: decant the clear, and let the Pouder dry in the Shade in the same Vessel it was washt in, and keep it for Cementation.

V. *To*

V. *To make the Lixivium's for this Work.*

1. ℞ Vine Stalk Aſhes well ſearced, ten handfuls: put them into a Veſſel or Earthen Stein, which may have a Braſs Cock or Tap at bottom: preſs the Aſhes very well together, and affuſe thereon fair warm Water ℔xx. when ſunk to the bottom, open the Cock or Tap, ſo that the Lye may come forth only dropping into the Receiver: Filter this Liquor thro' a Felt, or brown Paper, and keep it for Uſe: *This is the ſtrong Lixivium.* 2. Affuſe on the ſame Aſhes again fair warm water ℔xx. and do as before: *This is the mean Lixivium.* 3. Affuſe on the ſame Aſhes more fair warm Water ℔xx. and proceeding in the former method, you will have *the mild or weak Lixivium.* 4. Take white Calx of Tartar ℔iij. fair Water *q. s.* boil, let it cool and ſettle, and decant the clear for Uſe. It is good to waſh the *Lapis Lazuli* with, and to ſtrengthen and improve the color thereof.

VI. *To make the ſtrong Cement for Lapis Lazuli.*

℞ Pine Roſin, per Roſin, ana ℥ix. fine Venice Turpentine ℥vi. Maſtich, Bees Wax, ana ℥iiiſs. refined Linſeed Oil ℥ij. ℥ij. firſt put in the Turpentine, to melt over a gentle Fire; then add *gradatim*, the Pine Roſin in bits; after that, the Burgundy Pitch; then the Maſtich in pouder; laſtly the Wax, thin ſliced; ſtir all continually to well mix them: which done, add the Oil, ſtirring it as before, and letting it boil gently for a Quarter of an Hour. Then drop ſome of it upon cold water, if it ſpreads it is not enough, if it does not, it is boiled enough, and is to be taken off. Strain it boiling hot, thro' an *Hypocras* Bag, (before hand ſteeped in hot water) letting it fall into a Veſſel of cold water, ſqueezing the Bag from top to bottom with 2 flat Sticks, that none of it may remain in the Bag: then work it well with your Hands, till the water is workt from it; and if it chances to ſtick, anoint your Hands with ſome of the Linſeed Oil: Laſtly, keep it in a Veſſel of cold water, ſhifting the water twice or thrice a week, ſo will it keep good for many Years.

VII. *To make the weak Cement.*

℞ Burgundy Pitch ℥ix. Pine Roſin, Venice Turpentine, ana ℥vj. Bees Wax ℥jſs. Linſeed Oil purified ℥j. and better: mix, and make the Cement in all reſpects as the former. Note, this Cement opens the Body of the

Lapis, and draws the color much quicker and better than the ſtrong Cement, which ought rather to be uſed after the uſe of this weaker: The whole ſecret of ſeparating the Color, conſiſts in the right uſing of theſe Cements, for which reaſon, you muſt order your Work accordingly.

VIII. *To refine or purifie Linſeed Oil.*

℞ Pure clear yellow colored Linſeed Oil *q. v.* fair water a double Quantity: ſhake them well together in a Glaſs for a Quarter of an Hour: then put all of it into a large Glaſs Funnel, ſtopt at bottom with a Cork; let all alone till the Oil and Water are perfectly ſettled, the Oil ſwimming on top: then pulling out the Cork, let all the water out: add more water to the Oil, ſhake, *&c.* doing as before, and this Work repeat ſo often, till the water comes out as clear and fair as it went in; then keep it cloſe ſtopt for Uſe.

IX. *To mix the Pouder of Lapis Lazuli in* Sect. 4. *with the Cements.*

℞ of the pouder, and of the ſtrong Cement, ana ℔j. cut the Cement ſmall, put them into a glazed Earthen pot or pan, and melt it over hot Embers, but ſo that it may not boil, (which if it ſhould, you muſt add a little Linſeed Oil) then having a Spatula anointed all over with Linſeed Oil, put in the pouder by very little and little, that they may the better incorporate, ſtirring all the while with the Spatula, till it becomes exactly like an Emplaſter: then caſt it boiling hot into an Earthen Baſon, almoſt full with cold water; taking off, alſo at the moment, all that ſticks to the ſides of the Pot, and putting it into the water; when it is cold, if it ſeems to be well colored, you have done well; then rubbing your Hands with purified Linſeed Oil, work it as you do Paſte or Dough for an Hour; the longer you work it the better, and the eaſier the color will be drawn: after which, make it up into a round Loaf or Cake, which put to dry in a white ware Diſh; pour upon it ſome freſh fair water, and let it ſtand or digeſt 15 days, the longer the better.

X. *The firſt way of ſeparating the Ultra-marine from the Lapis Lazuli.*

℞ The former Loaf or Cake, and waſh it in the ſame water, extreamly well with your Hands; weigh it, to know

know the Quantity of Oil it requires, and put it into an Earthen Diſh, glazed very ſmooth, rubbing the bottom firſt with Linſeed Oil; then put in water not Blood warm, ſo as to ſupernate 2 Inches above it; let it ſtand a Quarter of an Hour, then decant the colored water into ſome proper Glaſs Veſſel: add more warm water, and the Maſs will ſoften: continue this work till all the Tincture is extracted from the Cement. Now whilſt it lies in the warm water, you muſt move it gently up and down, and round about with 2 Ivory Spatula's, ſmoothly rounded at the ends like a Wallnut, and nearly an Inch thick. If the Maſs ſticks to the bottom, moiſten your Hands with Linſeed Oil, and ſtir it about leiſurely, that the water may be colored, which decant to the former, holding up the Maſs with the Spatula's, leſt it ſhould ſtick to the Veſſel. A little ſteeping at firſt will color the water very much, and when the Maſs is juſt yielding its color, it will emit certain Blewiſh Streaks, like the Sun Beams, this water you muſt ſtrain out among the other, that the groſſer part of the Cement may ſtay behind. Then affuſe *gradatim* freſh warm water, ſtirring the Cement eaſily, that it may not dilate too much, nor give its color all at once; and having ſtirred it 5 or 6 times about, cloſe it up into a lump again, by which you ſee how much it is waſted, and how much color it has given. If the *Lapis* was very good, *at the firſt Steepings* it will yield 4 or 5 Ounces of *Ultra-marine*, which, (tho' it appears groſſer or courſer than what is afterwards made, by reaſon of the Gold colored Veins, yet) is the beſt and fineſt Color, and is therefore to be kept by it ſelf. *From the ſecond Steeping*, (following the former method) you will have 3 or 4 Ounces: This will indeed be finer than the former, but not of ſo good a color; keep this alſo by it ſelf. *From the third Steepings*, you will yet have leſs, (following ſtill the ſame manner) which will be yet finer than the former, but paler, and more bright colored. In theſe Operations let the water be no hotter, than to be juſt diſcerned to be warm. You will be 8 or 9 Hours in extracting the colors; and the waters will be at leaſt 12 Hours in ſettling. If the color comes not eaſily out, add to the water a third part of the weak Lixivium (at *Sect.* 5 above) if that does not do, uſe all *Lixivium*, but let it be cold; if that is yet too

weak,

weak, make uſe of the mean, or ſtrong Lixivium, and with this heated, waſh your Cement very well, as before, *&c.*

XI. *To cleanſe the Ultra-marine, when ſeparated from the Cement.*

1. Affuſe upon it ſome of the mild Lixivium, and waſh it with your Hands, (but not rubbing it between them) thus the greaſy parts will be taken away: then waſh it 3 or 4 times in fair water, and let the waters ſettle well (at leaſt 6, 8 or 10 days) and ſo decant. 2. A ſecond way. Take Yolks of Hens Eggs, prick them with a Pin, and ſo moiſten the colors, Kneading the Maſs with your Hands; after which, waſh with the weak Lixivium, till it comes off clear, then waſh 3 or 4 times with fair water, as before, *&c.* 3. A third way. After the colors are waſhed, as before, as well as may be, you muſt caſt in by little and little, eaſily rubbing it with your Hands, which done, waſh often in fair water, and the *Ultra-marine* will be in perfection.

XII. *To ſtrain off the Ultra-marine.*

Take for this purpoſe a fine Searce, and caſt thereon the laſt waters; and Strain again thro' a finer Searce; and again thro' another finer; letting them in Straining every time ſettle till they are perfectly clear: and then ſoak off the water carefully with a Spunge: but be ſure not to Strain them all promiſcuouſly together. This being done to all the waters, let the colors ſettle in their proper Veſſels, and dry in the Shade; when dry, tye them cloſe up in little Leather Bags, rubbing them with your Hands, ſo will they attain a wonderful fairneſs, the Greaſineſs and Unctuoſity by theſe means being quite taken away.

XIII. *To exalt the Colors to a much greater Perfection.*

Take the colors before prepared, mix them again with the ſtrong Cement, and proceed exactly as directed in *Sect.* 10. 11. 12. above, ſo you will have them exceeding fine, (but a little diminiſhed in their Quantitys) one Ounce of which will go farther than ℥iij. of the former.

XIV. *A ſecond way to make Ultra-marine.*

℞ *Lapis Lazuli* ℔j. calcine it in a Crucible; quench it in Wine Vinegar, dry it, beat it to pouder, levigate it with fair water on a Porphyry, put it in a Glazed white ware, or China Veſſel, and dry it in the Shade; after

after which, in a Glaſs Mortar pouder it again. This Pouder put into another Earthen Veſſel, and put to it the following Cement hot, ſtirring them with the Spatula till they are perfectly mixed: let it ſtand a whole day; then affuſe thereon boiling water, ſtirring it with the Spatula very hard: when it begins to cool, decant the water; and affuſe more hot water; and repeat this work till all the color is extracted: You may ſeparate and keep the waters apart, as in the former, to diſtinguiſh the purity of colors. If the Colors are clammy or greaſy, ſteep them in water, in which Tartar is diſſolved, then waſh them in warm water, and they will be well purified.

XV. *To make the aforeſaid Cement.*

℞ Pine Roſin ʒiiij. Frankincenſe, Greek Pitch, Maſtich, ana ʒiij. Oil Olive ʒij. firſt put in the Oil, to which when hot, add the Roſin, then the Pitch, after that the Frankincenſe, and laſtly, the Maſtich in pouder, ſtirring them all the while with a Spatula; let them boil a little, and it is done.

XVI. *A third way to make Ultra Marine.*

Calcine bits of *Lapis Lazuli* in a Crucible, when red hot quench them in fair water; and this do 7 times, to reduce them, (by grinding on a Porphyry) to a ſubtil Pouder. Take of this Pouder ℔j. of the following Cement ℔j. melt the Cement, and then put in the pouder gradually, continually ſtirring with a Stick to mix them: which done, caſt the Maſs into a white ware Earthen Baſon, and anointing your Hands with Linſeed Oil, make it up into Cakes or Rouls, which leave in cold water for 5 or 6 days, ſhifting the water every other day. Afterwards put them into a clean well glazed white Earthen Baſon, affuſing thereon fair hot water: and when that is cold, put on more hot water, which do till the Maſs ſoftens: which done, put them into warm water, and let them lye till it is of a Blewiſh Color: Strain this water out, (to ſave the groſſer matter) into another white ware Baſon. Put more warm water to the Maſs, which afterwards ſtrain thro' a fine Searce, and continue this courſe till all the color is drawn forth. All theſe colored waters are to be cleanſed from their greaſineſs, by letting them ſtand ſtill for 24 Hours, in which time the color will precipitate to the bottom. Decant

cant the water gently into another Veſſel, and the greaſie matter will go along with it: Strain it afterwards into the Veſſel where the Color is, thro' a fine Searce, and all the greaſineſs and filth will be left behind: Repeat this work thrice, ſtirring the color well every time the water is returned to it, that the greaſineſs which ſtill adheres to it may aſcend to the top of the water, which will always ſtay behind on the Searce in ſtraining: At laſt let the color precipitate intirely: and afterwards decant the water very gently; then dry the *Blew Pouder*, and you will have an admirable *Ultra-marine*. See a courſe ſort in *Lib.* 2. *Cap.* 30. *Sect.* 13.

XVII. *To make the Cement aforementioned.*

℞ Pine Roſin, common black Pitch, Wax, Maſtich in Pouder, Turpentine, ana ℥ix. Frankincenſe, Linſeed Oil purified, ana ℥iij. melt all together, ſtirring them very well, that they may be mixed: then caſt it into water, and keep it for Uſe.

XVIII. *To make German Blew.*

℞ Sal Armoniack ℔ij. Flowers of Sulphur ℥xij. Quickſilver ℥viij. beat and grind theſe in an Iron or Marble Mortar, till the Mercury is wholly mortified, and diſappears, then put it into a Glaſs Body, well luted up to the middle, ſet it in a very gentle Sand heat uncovered, till all the moiſture is vaniſhed: ſtop it cloſe, and gradually increaſe the heat, to make the Maſs ſublime; ſo will you have an excellent Azure or Blew, which grind on a Porphyry to a ſubtil Pouder, for uſe in Painting.

XIX. *To make a Glorious Mineral Red.*

Take *Native Cinnabar* q. v. beat it to Pouder in an Iron or Stone Mortar, then grind it with water upon a *Porphyry*, till it is impalpable; dry it, and keep it for Uſe. The ſame you may do with Artificial *Cinnabar*, which in Pouder is called *Vermillion*.

XX. *To make a Mineral Yellow.*

℞ *Auri pigmentum* ℥x. Leaf Silver ℥i. mix, and grind them upon a *Porphyry* to an impalpable Pouder, with water: which dry, and keep for uſe. If Leaf Gold ℈ſs. or ℥ij. be ground with it, it will yet make two other differing ſorts of Yellows: So alſo if pure red *Crocus Martis* be added, in place of the Gold. But as to the proportions of theſe things, Reaſon *and Experience muſt teach you.* Maſticot *is another Mineral Yellow: See it* Lib. XI. Cap. 2. Sect. 20.

CHAP.

CHAP. XXXIX.

Of Coloring Glaſs from Randle Holme *and* Gerard Wane.

I. *Green.* ℞ *Minium* ℔j. Copper Scales ℔j. white Flint ℔v. divide them into 3 parts: then take *Sal Nitre* as much as one of thoſe parts, and put them into a Crucible, and melt them with a ſtrong Fire: being cold, pouder it and grind it on a Porphyry.

II. *Purple.* ℞ *Minium* ℔j. brown Stone ℔j. white Flint ℔v. divide them into 3 parts, and add to them as much *Sal Nitre* as one of thoſe parts: calcine, melt and grind it as the former.

III. *Red or Carnation.* ℞ Red Chalk ℔iv. Jet ℔iij. Gum *Arabick* ℔j. let all be finely ſhaved: grind them well on a Copper Plate with Rain-water very thick, and let it ſtand 3 days to ſettle; then dry it in an Earthen Diſh, and grind it again on a Copper Plate.

IV. *Pointure or Black.* ℞ Iron Scales p. *j.* Jet p. ij. *Or,* Take Iron Scales p. j. Jet p. *jſs.* *Or,* Iron Scales p. iij. Jet p. iij. Copper Scales p. ij. it will be a pleaſant Color.

V. *Artificial Jet for this Purpoſe.*

℞ *Minium* or red Lead p. iij. Flint or white Pebble-ſtones p. j. mix, calcine and grind them.

VI. *Blew.* ℞ Of Pouder Blew ℔j. *Sal Nitre* ℔ſs. mix and grind them well together.

VII. *Yellow.* ℞ *Spaniſh* Brown p. x. Silver p. *j.* (Leaf Silver) Antimony p. ſs. put all into a Crucible and calcine them well.

VIII. *White.* ℞ Of Jet p. ij. white Flint ground on a Glaſs very fine p. *j.* mix them.

IX. *White.* ℞ *Minium* or red Lead ℔iij. Sand from the Glaſs-houſe ℔j. mix them.

X. *Carnation.* ℞ Red Chalk ℥xvj. Jet ℥viij. Iron Scales, Litharge of Silver, of each ℥iv. Gum *Arabick* ℥j. diſſolve in Water, grind all together half an hour as ſtiff as you can: then put it in a Glaſs and ſtir it well; let it ſettle 14 days.

XI. *Pointure or Black.* ℞ Iron Scales ℥j. Copper Scales ℥j. Jet ℥ſs. being in pouder, mix them.

XII. *Red.*

XII. *Red.* ℞ Jet ʒiv. Litharge of Silver ʒij. red Chalk ʒj. being in fine pouder, mix them.

XIII. *Gold Color.* ℞ Silver ʒij. Antimony ʒj. melt them in a Crucible, then beat the Maſs to pouder, and grind it on a Copper Plate: add to it yellow Oker or Brick-duſt calcined again ʒxxx. grind them well together with Water.

XIV. *Green.* ℞ *Minium* or red Lead ʒiv. Sand ʒj. Copper Scales calcined ʒv. mix them.

XV. *Verniſh for Glaſs.*

℞ Oil of Turpentine ʒvj. *Venice* Turpentine ʒiij. Gum *Hederæ* or Gum of Ivy (or rather Maſtick) ʒj. put them into a Glaſs Bottle, which ſtop well, and Wax it that no Vapors may come forth: then diſſolve in *B. M.* which will be done in about 2 hours time.

XVI. *To make drying Oil.*

℞ Litharge of Gold very well calcined ʒiij. Linſeed Oil ʒxviij. mix and boil them together till you ſee it grows thick.

XVII. *A fine Golden or Yellow Color.*

℞ Prepared Silver or Leaf Silver, (which will do the ſame) put each of them ſmooth and even upon a Plate of Glaſs, and burn or anneal the ſame together, and the Glaſs will be of a delicate Golden or Yellow color.

XVIII. *A noble Red or Green Color.*

℞ Leaves of Gold or Calx of Sol made by Calcination or *Aqua Regis*, put either of them on Plates of Glaſs, and heat them gradually red hot together; ſo will the Glaſs be tinged of a noble Red color, or elſe of a florid Green; which Colors reſult from the Purity or Impurity of the Gold.

XIX. *Alſo divers Foſſils and Mineral Earths* will, by the help of Fire, impart tranſparent Colors to Glaſs, differing ſometimes from thoſe of the Bodies themſelves.

CHAP. XL.

Some other Colors for Painting Glaſs.

I. *Yellow.* Take a very thin piece of pure fine Silver, and dip it into melted Brimſtone; take it out with

with a pair of Plyers, and light it in the Fire, holding it till it leaves burning; then beat it to pouder in a Brazen Mortar; and grind it with Gum *Arabick* Water and a little yellow Oker.

II. *Yellow.* Take fine Silver ℥j. Antimony in pouder ℥ij. put them in a hot Fire in a Crucible for half an hour, and then caſt it into a Braſs Mortar and beat it into pouder; to which add yellow Oker ℥vj. old Earth of ruſty Iron ℥vij. grind all well together. This is fairer than the former.

III. *White.* This is the color of the Glaſs it ſelf: you may diaper upon it with other Glaſs or Cryſtal ground to pouder.

IV. *Black.* Take Jet and Scales of Iron, and with a wet Feather take up the Scales that fly from the Iron, after the Smith hath taken his heat, grind them with Gum-water.

V. *Black.* Take Iron Scales, Copper Scales, of each ℥j. heat them red hot in a clear Fire-ſhovel: then take Jet ℥ſs. firſt grind them ſmall and temper them with Gum-water.

VI. *Red.* Take *Sanguis Draconis* in pouder, put to it rectified S. V. cover it cloſe a little while, and it will grow tender: wring it out into a Pot, that the Droſs may remain in the Cloth; the clear preſerve for Uſe. This is a fair Red.

VII. *Carnation.* Take Tin Glaſs ℥j. Jet ℥iij. red Oker ℥v. Gum ℥ij. grind them together. It is a fair Carnation.

VIII. *Carnation.* Take Jet ℥iv. Tin Glaſs or Litharge of Silver ℥ij. Gum and Scales of Iron, of each ℥j. red Chalk ℥j. grind them.

IX. *Green.* Take Verdigriſe and grind it well with Turpentine, and put it into a Pot, warming it at the Fire when you uſe it.

X. *Blew.* Provide the cleareſt Lead you can get of that color, beat them to pouder in a Brazen Mortar: take Gold-ſmiths Enamel of the ſame color, clear and tranſparent; grind each by it ſelf: take p.ij. of Lead and p.j. of Enamel, grind them together as you did the Silver. *The ſame underſtand of Red and Green.*

CHAP.

CHAP. XLI.

Of the way of Painting upon Glaſs.

I. *THere are two manner of ways of Painting upon Glaſs:* the one is for Oil Color, the other for ſuch Colors as are afterwards to be annealed or burnt on.

II. *To lay Oil Colors upon Glaſs.*

You muſt firſt grind them with Gum-water once, and afterwards temper it with *Spaniſh* Turpentine: lay it on and let it dry by the Fire, and it is finiſhed.

III. *To Anneal or Burn your Glaſs, to make the Colors abide.*

You muſt make a 4 ſquare Brick Furnace, 18 inches broad and deep; lay 5 or 6 croſs Iron Bars on the top of it, and raiſe the Furnace 18 inches above the Bars: then laying a Plate of Iron over the Bars, ſift (through a Sieve) a lay of ſlack'd Lime over the Plate; upon which lay a row of Glaſs, upon that a bed of Lime; and upon that Lime another row of Glaſs: thus continue *S.S.S.* till the Furnace is full.

IV. *Lay alſo with every bed of Glaſs a piece of Glaſs, which you may wipe over with any Color; (theſe are called Watches)* and when you think your Glaſs is burnt enough, with a pair of Plyers, take out the firſt and loweſt Watch, and lay it on a Board; and being cold, try if you can ſcrape off the Color; if it hold faſt on, take out that row, always letting it abide the Fire till the Color will not ſcrape off.

Another Way.

V. *Take very white Glaſs, varniſh it very thin on one ſide with a white Varniſh,* then having ſome fine Cut or Print on Paper, juſt fit for the piece of Glaſs you intend to paint that Deſign on: dip it in Water, let it ſoak and dry a little, and clap the Picture ſide thereof to the Varniſh ſide of the Glaſs, as exact and ſmooth, and even as you can, and ſo let it dry throughly: being dry, moiſten the Paper on the blank ſide, and with a blunt Graver draw off and trace the Lines of the Picture, which will afterwards remain perfect and diſtinct on the varniſht ſide of the Glaſs.

VI. *This*

VI. *This Draught is for the Model you muſt paint, in which you muſt obſerve the Tracings, Strokes and Lines of the Picture, which are to direct you in your Shadowing*; which, if not well and exactly performed, will be a manifeſt Damage to the Picture: but the Mode of *Painting on Glaſs* is contrary to that of *Limning* or *Painting on Cloth, Wood* or *Velom*; for in this the Point being but on one ſide, it is plainly viſible on the other; and here the Settings off are firſt done, then the compound Colors are run over, and ſo continued till the Work is perfected; whereas *Limning on Cloth*, the Settings off or Heightnings are the laſt Strokes; and their Ground Color, is what here we end withal, and is our laſt Lay upon Glaſs.

VII. *We treat not here of the making up the Colors, nor how to mix, or alter and finiſh the Artificial ones*; for that has Relation to the Arts of *Limning* and *Painting*, which we have very fully and largely diſcourſed of in the former parts of this Work, and therefore ſhall ſay no more of it here.

VIII. *The Painting on Glaſs* is juſt the ſame as in *Miniature* with Water-colors, laying the Picture underneath it as before; and this will ſhew finer than if done in Oil; the Colors moreover dry inſtantly.

IX. *Your Work being thus done in Oil or Water-colors, you may add to it, and improve its Beauty*, by over-laying all the Colors with Leaf Silver, which will be exceeding glorious and beautiful, if laid on Lakes, Verditers, *&c.* which are diaphanous or tranſparent.

A Third Way.

X. *Chuſe ſuch Glaſs as is white, purely ſmooth and plain*, and having the Original in Paper which you intend to paint by, mark out each part of the Print or Picture, and trace them over with the Black in *cap.* 36. *ſect.* 3. with a Pencil, which do exactly, neither too thin nor too thick, and then let it ſtand 2 or 3 days or more to dry, before you paint it.

XI. *Then having all your Colors in a readineſs, fill the parts of your Deſign with them*, for which purpoſe you muſt uſe the point of the Pencil, chiefly in Carnation, in which you muſt be very exact: you muſt be very careful and expeditious, being cautious not to blot or blur the Tracings, chooſing rather to paint on the other ſide of the Glaſs.

XII. *All the Colors, except yellow, may be applyed on the ſame ſide, but that Color muſt be laid on on the other ſide,* becauſe it is apt to run into or mix with the others Colors and if near the Blew, it will make the place Green, and ſo, for want of theſe Precautions, the whole may be ſpoiled.

XIII. *If the Yellow tranſmits its ſelf thro' the Glaſs, it as well as if it had been done on the ſame ſide:* this it uſually does, whereas other Colors, by reaſon of their groſſer Conſiſtence or Body, will not ſuffer ſo eaſy a Tranſition.

XIV. *The Yellow ought to be very equally and truly laid on, in a greater or leſſer quantity, according as the Shades muſt be:* you muſt obſerve this in the other Colors, and withal to lay them on as ſpeedily as may be, chiefly the Azure, Green and Purple, which require much Exactneſs.

XV. *To heighten and ſet off the Lights, as in ſetting a Beard, deſcribing Hair in Drapery,* &c.

Uſe the Handle or But-end of the Pencil, pointed Stick or Quill, wherewith take off thoſe Colors in thoſe places you would enlighten.

XVI. *To Paint, as if bedawb'd.*

Trace your piece with Black and let it dry for 3 days after do it over with the following Waſh lightly and equally; which lay ſo thin on as it may not efface the former Lines, and let it alſo dry for 3 days; then run over again with the ſame Waſh, where you find it convenient to give a ſecond tinge, and let it dry for 3 days longer.

XVII. *This done, to give it the true Lights and Heightnings,*

Take the ſharp But-end of your Pencil, or pointed Stick, or Pen, and take off the Color of the firſt Waſh as before, in the moſt neceſſary places; ſo will your Work be finiſhed.

XVIII. *To make the afore-mentioned Waſh.*

Take a Pewter Cup or other Veſſel, put into it a quantity of your black Color: then diſſolve Gum *Arabic* Pouder in its equal weight of Wine, and put this into the Black in the Pewter Diſh or Sawcer, that it may be very clear, and not eaſily dryed; and this is the Waſh for bedawbing and painting Glaſs grey or greyiſh.

XIX. *To*

XIX. *Your Glaſs being thus painted, and the Draught perfectly finiſhed*, you muſt now come to Baking of it, to give the Paint a Conſiſtency with the Glaſs by Penetration, which muſt be done in the Furnace deſcribed in *cap.* 36. *ſect.* 1. or in that deſcribed in *ſect.* 3. of this *Chapter.*

XX. *If you have many pieces of Glaſs or Work*, you muſt put them into the Stove (in *cap.* 36. *ſect.* 1.) laying them one upon another, *S. S. S.* with very fine pouder of Quick-lime thrice baked in a Potters Furnace, and poudred, making *the firſt Lay of Lime half an inch thick on the bottom of the Stove*, and upon that *a Lay of bits of broken Glaſs*; on that another Lay of Pouder of Lime, and another Lay of bits of broken Glaſs: on that another Lay of Lime Pouder; upon which third Lay put your Pictures or Drawing of Painted Glaſs, with nothing but Lime Pouder; and theſe to be laid as afore-ſaid *S. S. S.* till the Stove is full; and upon all a Lay of Lime Pouder.

XXI. *The reaſon of this treble laying of Lime, with bits of broken Glaſs at bottom, before you put in your painted Glaſs*, is, to prevent the Injury which the Violence of the Fire might do (being very ſharp) under the immediate bottom of the Stove.

XXII. *All this done, cover the Furnace and Stove with its proper Cover, luting them well together with ſtrong Lute round about*, that the Heat, Fire or Smoak may come no where forth, but at the holes of the Cover.

XXIII. *The Lute being throughly dry, begin to kindle the Fire at mouth of the Furnace with Char-coal, but with great gentleneſs*, and encreaſe it very leiſurely, leſt your Painted Glaſs ſhould break, or the Paint be ſpoiled: continue thus for 2 hours; and then put the Fire farther in, letting it remain for an hour; after which put it farther in till it is compleatly under the Stove, where leave it for 2 hours longer: then encreaſe the Fire by degrees for 2 hours more, continually adding Char-coals till the Furnace is full, and the Flame comes thro' every hole of the Cover: keep it in this degree of Violence for 3 or 4 hours, ſhutting the Mouth or Door of the Furnace.

XXIV. *In this time you muſt often take forth your Watches (mentioned in* ſect. 4. *above) to ſee how your Work goes on*, which you may alſo perceive by the ſparkling of the Iron

Bars under the Stove; and when you find the Colou almoſt perfect, encreaſe the Fire with very ſmall Billet of dry Wood, to make the Flame environ and reve berate, over and round about the Stove; which cont nue till the Work is finiſhed, which will be in 12 or 1 hours time: let the Fire go out of it ſelf, and being cold take your pieces out.

CHAP. XLII.

Of Gilding upon Glaſs.

I. *TAke the Glaſs you deſign to Gild*, moiſten it ove with Gum-water; and being half dry, put o Leaf Gold where you intend it, and ſo let it dry.

II. *Cover your Piece over with any piece of hollow Glaſ and put it on an Iron Plate at the mouth of the Furnace, heat gently*; and when it is well heat, put it in farthe and in a little time it will be red hot: then draw it little towards the mouth of the Furnace, and there le it cool gradually.

III. *Now, if your Leaf Gold is well laid on at firſt*, an you have been careful in managing your Fire, you wi find your Gold to be ſo well united to your Glaſs, tha it will be impoſſible for ever after to remove it.

IV. *Another way, which is better.*

Moiſten the Glaſs you deſign to Gild every where wit Gum-water; and when half dry, lay on the Leaf Gol letting it dry.

V. *This done, waſh all the gilded part with Water which Borax has been diſſolved*; and ſo duſt it well wit impalpable Pouder of white Glaſs.

VI. *Afterwards ſet it into the Furnace, firſt in a ver gentle heat*; and encreaſe the heat by little and little ti the Glaſs becomes red hot, and the Pouder on the Gild ing is melted and runs.

VII. *Then draw it leiſurely to the mouth of the Furnac and let it cool leiſurely*; ſo will your Glaſs be admirabl Gilded, not to be hurt by Scraping, force of Weathe Heat, Cold, or Age it ſelf.

VIII. *Ther*

VIII. *There is another way of Gilding on Glaſs, which is done with Linſeed Oil,* as we have taught in *cap.* 35. *ſect.* 8, 9, 10. to which I referr you; but the former ways are ſo excellent, that this is (being compared to them) but truly Trifling.

APPENDIX.

CHAP. XLIII.

A Diſcourſe of Looking-Glaſſes.

I. *THE Subſtance or Metal of Looking-Glaſſes, is to be Cryſtal Frit, (in* cap. 2. ſect. 8.) *or Frit made of Flints;* the melted Matter of which is to be caſt upon an excellently poliſht Table of pure tough Copper or Iron; which Table muſt be of the Magnitude you deſire, and its bottom ſo much ſunk as you intend the thickneſs of your Glaſs Plate to be, *viz.* it is to have Edges round about it ſo high as your Glaſs is to be thick: over this you are to have a Plate or Runner of Metal, to ſlide and preſs it on the melted Glaſs, that it may ſpread it ſelf all over the Copper or Iron Table, to make it cloſe, compact and even.

II. *To Grind, Poliſh and Cut the Glaſs.*

You muſt lay it on Sand in a fit place, leſt it break in working; then grind it with a Grinder and very fine Sand and Water. 2. You muſt grind it over again with Pouder of Emery, to give it a greater Smoothneſs. 3. It is then to be ground with *Tripoli* in the ſame manner, which poliſhes the Glaſs ſingularly. 4. *Laſtly,* It is brought to its utmoſt Excellency and Beauty by grinding it with Putty or Calx of Tin, which gives it its perfect Poliſh and Luſtre. 5. *The Diamond Cut* is done by grinding the Cryſtal on drift Sand and Water, to its juſt Dimenſion. All theſe things were formerly done by Hand; but now Art is come to that Perfection, that what was formerly performed with vaſt Labor and Pains, beſides

an almoſt invincible Care, is now performed eaſily, and exactly, and as it were at once, by the help of an admirable *Engine* or *Mill*, out-doing the Operation by the Hands, almoſt a thouſand fold.

III. *To File or Silver Looking-Glaſſes.*

Have a very firm, ſmooth Table, much greater than the Glaſs, on which ſpread one or more Sheets of very fine Tin, full as thin as Paper, and ſo prepared as to be free from any Rumple, Wrinkle, Furrow or Knot, (which will ſpoil the Glaſs;) over theſe Sheets ſpread good Quick-ſilver, covering them all over with it: when the Quick-ſilver has ſoakt in well, place the Glaſs thereon, and it will ſtick to them; after which turn it, and ſpread Sheets of Paper on the Filings; preſs it gently, ſmoothing and ſtroking it with your Hands, to take away the ſuperfluous Quick-ſilver: then dry it in the Sun or by the Fire, and it will become abſolute and compleat.

IV. *To File Glaſſes with a Diamond Cut.*

You muſt have a Table for the Purpoſe made with a Diamond-cut riſing Border, to touch the ſides of the Glaſs, on which you muſt lay it, with the back ſide, which is to be filed, upwards: then lay on the Sheets of Tin very ſmooth and cloſe; over them the Quick-ſilver, to diſſolve them; then with the Sheets of Paper cover all, and ſo ſmooth and run it over with your Hands, to take away the ſuperfluous Quick-ſilver, and then dry it as before.

V. *Another way to Foliate Looking-Glaſſes.*

℞ Saturn, Jupiter, *ana* p. j. melt them, and forthwith add of good Tin Glaſs p. ij. carefully skim off the Droſs, take it from the Fire, and before it is cold, put to it good and pure Quick-ſilver p. x. ſtir all together, and keep this foliating Liquor in a new clean Glaſs for Uſe. When you uſe it, ſtrain it from its Droſs upon a Cloth.

VI. *To make Concave Burning-Glaſſes.*

The whole Myſtery of making theſe is in the Moulds, which muſt be Fragments or Portions of a Sphere; otherwiſe they will have little or no Effects in uniting the Sun Beams. To make the Glaſs Concave, you muſt have the Mould Convex, which muſt be done by a Sphere, according to the bigneſs you would have it: Take a Sphere or what bigneſs you pleaſe, divide it equally into

two

two Hemi-ſpheres; and one of the Hemi-ſpheres equally into 3 parts, by Plains parallel to the greateſt Plain; the Convex Segment will then be the 6th part of the whole Sphere, which is the Meaſure of your Burning-Glaſs.

VII. *To make Convex Burning-Glaſs.*

You muſt then have Concave Moulds, and this you may have two ways; 1. Take two Concave Moulds and cloſe them exactly together as Founders do their Frames, and thro' the mouth of the Mould pour in your melted Cryſtal Metal, to fill the Mould, and ſo let it cool. 2. You may take two Concave Glaſſes, join their Faces and ſoder them well round about, leaving only a little hole, by which you are to fill the hollow ſpace with Spirit of Wine, and ſtopping the hole up, put them into Frames of Wood or Metal. This has a greater Influence in concentrating the Sun Beams than the other.

VIII. *To make Parabolick or Spheroidal Burning-Glaſſes.*

You muſt make their Moulds as the former, obſerving their juſt Proportions; for if the Moulds are too much raiſed, their good Effects are hindred by their deepneſs; and on this Nicety depends the Succeſs of the Work: and theſe are ſaid to be more powerful than the former; where note, That all theſe Glaſſes muſt be extreamly well poliſhed, even to Perfection.

IX. *To make Steel Burning-Glaſſes, whether Concave or Convex, Sphericks or Parabolicks.*

The Moulds are to be prepared for them as in the three former *Sections*: the Metal of which they are to be made, is compoſed as follows, ℞ *Copper* ℔ix. *fine Tin* ℔iij. *white Arſenick, Tartar,* ana ℥iij. firſt melt the Copper, then immerge the Tin in the melted Copper, elſe it will fume away and leave the Copper behind: theſe being melted together, add to them the Arſenick and Tartar; keep them in this melting heat for 2 or 3 hours, and ſo caſt it into the Mould or Moulds. *Note,* Some make the Arſenick to be ℥xxiv. others, inſtead of the Arſenick, put in Antimony ℥xij.

X. Another Compoſition for Steel Glaſſes.

℞ *Refined Roſe Copper* ℔iij. *melt it, then add of fine Tin* ℔ix. *as ſoon as they are melted, add red Tartar calcined* ℥xviij. *white Arſenick* ℥vj. *Nitre* ℥iij. *Alum* ℥j. keep theſe in a

melting heat for 3 or 4 hours, that the Salts may evaporate; then caſt it into the Moulds. This is more ſolid and hard than the former, and more fit for flat Looking-Glaſſes.

XI. Another Compoſition, much better than the former.

℞ *Plates of Roſe Copper in ſmall bits* ℔ij. *put them into a Crucible, and imbibe them with Oil of Tartar* per delique; *take white Arſenick, or rather Orpiment,* ℔ſs. *in pouder; lay the Copper and Arſenick in the Crucible* S.S.S. *till the Crucible is full:* affuſe on them Linſeed Oil, to cover the Arſenick and Copper; cover and lute the Crucible, and let it dry: ſet it on a Sand Furnace, letting the Sand riſe to the brims of the Crucible: let the heat be gentle till the Oil begins to evaporate; ſo will the Oil prepare the Venus for retaining the Arſenick, which ought to enter almoſt as eaſily as a Sponge ſucks up Water: then encreaſe the Fire ſo much as to make the Oil evaporate and boil up; after which take off the Crucible, cool and break it; ſo will the Copper be of many colors, and the better prepared, if Orpiment be uſed inſtead of the Arſenick. ℞ of this Copper ℔ij. of Latten ℔iv. melt the Latten on a very hot Fire, and then put in the Copper; when well melted, caſt the Maſs almoſt drop by drop thro' a Birch Broom into a glazed Earthen Veſſel full of fair Water, to granulate it; by which means it will be ſo hard as not to be touched with a File, and as good as Steel for our intended Uſes. ℞ *of this hard Metal* p.iij. *of fine Tin (without Lead in it)* p.j. *melt the Metal before you put in the Tin: melt and mix all well, and then caſt it into the Moulds.*

XII. *To Poliſh theſe Steel Glaſſes.*

To bring theſe Glaſſes to their perfect Exactneſs, you muſt bring them to an exquiſite Poliſh, working and grinding away the outſide at the Wheel, with the Sand Stone which Braſiers make uſe of; and then applying the Handle, to give them their due Poliſhing and Luſtre. Take it off this Wheel and put it on a ſecond, rubbing it in an oblique Line with prepared Emery, which will give it ſuch a fine Poliſhing, that Specks, Scratches and Lines ſhall ſcarcely be perceptible. Take it off this and put it on another, grinding or rubbing it with prepared Hæmatites: after that you muſt work it obliquely with

Putty

Putty or Calx of Tin, working it for a long time till it has obtained its perfect Poliſh. *If theſe Glaſſes are ſullied or made dull with the Air or any thick Vapor*, you muſt clear them by rubbing, not with Woollen or Linnen, but with a piece of Deers or Goats Skin, wiping it in an oblique Line.

XIII. *Another way to Poliſh theſe Glaſſes.*

You may poliſh them *with Lead melted with Emery, adding Water in the Operation* for the firſt Proceſs: then *fine Emery and Lead for the ſecond Operation:* and laſtly with *Hæmatites and Tin Droſs mixt together*; for that theſe things make a finer Burniſh or Poliſh than the former, the Tin Droſs putting a high Poliſh upon the Glaſs. The reaſon why theſe Metalick Glaſſes are called *Steel Glaſſes*, is not from their being made of Steel, for there is no Steel in them; but from *the very great Hardneſs of their Temper and Compoſition*, equalizing that of Steel; theſe being extreamly hard, white, and not very brittle, and therefore the more eaſily poliſhed, and made admirably fine.

Explicit Liber Decimus.

POLY-

POLYGRAPHICES

LIBER UNDECIMUS.

Of *Varniſhing*, *Japanning* and *Gilding*.

CHAP. I.

Of Inſtruments and Utenſils for theſe Works.

I. THE *Chief Inſtruments are*, 1. Strainers. 2. Funnels. 3. Glaſs Bottles. 4. Varniſhing Pencils. 5. Drawing Pencils. 6. Muſcle Shells. 7. *Dutch* Ruſhes. 8. *Tripoli*. 9. Linnen. 10. Oil Olive. 11. A Cuſhion. 12. Swan-quill Pencils. 13. Cotton. 14. A Pallet. 15. A Bruſh. 16. Shammy Leather. 17. A Burniſher. 18. A Wyre Bruſh. 19. Grinding Stone and Muller. 20. Putty.

II. *Strainers*. They ought to be 3 or 4, made of courſe Linnen Cloth, Sugar-loaf faſhion; ſome of which are for ſtraining your ordinary Varniſhes; ſome for white Varniſh, and ſome for Lacca Varniſh.

III. *Funnels*. You may have of them alſo 3 or 4, or more, and that of Glaſs or Tin; ſome for common Varniſhes; ſome for white Varniſh; ſome for Lacca Varniſh, and ſome for Lackering.

IV. *Glaſs Bottles and Vials*. Theſe are to hold your ſeveral ſorts of Varniſhes, and they may be either great or ſmall, according to your Quantities.

V. *Varniſhing Pencils*. Theſe muſt be great or ſmall according to your Deſign: they are made of Camels Hair, and are very ſoft: of differing Prizes, according to their Magnitude, from 6*d*. to 3*s*. the Pencil.

VI. *Drawing*

VI. *Drawing Pencils.* Theſe muſt be both greater and leſſer, as great Gooſe, little Gooſe, Duck, Crow and Swallow Quills, according to your Deſign: the longeſt haired Pencils are the beſt.

VII. *Swans-quill Pencils.* You ought to have 3 or 4 of theſe, of finer Hair than ordinary, which are generally ſold for 6 *d.* a piece, and are uſed chiefly in Gilding.

VIII. *Muſcle Shells.* Fine, ſmooth, middle-ſized Horſe Muſcle-ſhells are fitteſt for theſe Occaſions; of which you ought always to have 2 or 3 hundred in a readineſs, for mixing your Metals or Colors in, as need requires; not that you will need the 10th part of them at once, but that you might not be to ſeek for them when you want them.

IX. Dutch *Ruſhes.* You ought to be furniſhed with a great number of them, which are to be had at the Iron-mongers in *Foſter-lane.* They are to ſmooth your Work before you varniſh it; and as you lay on your Ground or Color, if any Knob or Roughneſs appears, with them to ruſh it off.

X. *Tripoli.* It ought to be made into ſubtil pouder and ſifted; it is to poliſh your Work after it is varniſhed, and may be had at the Iron-mongers.

XI. *Linnen.* It may be old Linnen or Rags, both courſe and fine, which are for clearing up the Work.

XII. *Oil Olive.* It is alſo for ſmoothing, clearing up your Work, and giving it an exact Poliſh.

XIII. *A Cuſhion.* It muſt be made of Leather, ſtuffed very evenly and ſmoothly with fine Tow, and ſtrained on a Board, 14 inches one way and 10 inches another. On this you are to cut your Leaves of Gold and Silver, with a thin, narrow, and ſometimes broad, ſharp and ſmooth edged Knife. Gilders commonly border this Cuſhion at one end and 4 or 5 inches down each ſide with a ſlip of Parchment or Velom 2 inches high, to be as a Fence to keep their Leaves of Gold from Wind and Air.

XIV. *Cotton Wool.* It is of Uſe to preſs down the Leaves of Gold or Silver gently and evenly upon the Work; you are to breath upon it, and then with it to touch and take up the Gold, and ſo to lay it upon the place you deſign, preſſing it down, and cloſe therewith: ſome uſe a Hares Foot for the ſame Purpoſe.

XV. *A*

XV. *A Pallet.* It is the end of a Squirrels Tail, ſpread abroad and faſtned to a flat Pencil-ſtick, which is broad at one end and ſplit, much like an Houſe-painter's graining Tool, but much leſs. It ſerves for taking up and laying on whole Leaves of Gold or Silver at a time; and ſerves for all the ſame Uſes with the Cotton aforementioned.

XVI. *A Bruſh.* It is to be made of Hogs-hair, and is of Uſe after Gilding, and that it has lain by a day, to beat over the Work gently, that the Gold or Silver may be preſſed cloſe and forced into all the uneven hollow parts of the Carving; and after all, to bruſh off all the looſe Leaves into a Sheet of Paper for other Uſes.

XVII. *Shammy Leather.* It is of Uſe after the Gilding is throughly dry, to rub it over, ſmooth and poliſh it. The Leather ought to be white, and very fine and ſoft.

XVIII. *A Burniſher.* They were uſed to be made of a Dogs Tooth put into a Pencil-ſtick, or ſome ſuch-like thing: But of late they are made of Agats and Pebbles, which being form'd or ſhap'd, are highly poliſht, that they may the more contribute to heighten the Luſtre of the Gold and Silver. Theſe make a quicker diſpatch, performing with a more facil Expedition. Theſe Pebble Burniſhers are worth 5 *s.* apiece, and much to be preferred before thoſe of Dogs Teeth.

XIX. *A Wyre Bruſh.* It is ſold at the Iron-mongers, and is deſigned to ſcrub thoſe Silver, Copper and Braſs pieces which you deſign to Gild over; thereby perfectly to free them from any Dirt, Ruſt, Naſtineſs or Filthineſs which may adhere to them; which not being taken off, would hinder the cloſing of the Gold therewith.

XX. *Grinding Stone and Muller.* Theſe are not only for grinding Pouder and Colors very ſmall and ſubtil, but alſo to grind your Gold Size and Oil together, when you intend to Gild in Oil.

XXI. *Putty.* It is Calx of Tin, and is of Uſe in Poliſhing, to give the laſt Smoothneſs, Shining and Gloſs upon Varniſhed and Japanned Works after the Uſe of *Tripoli.*

CHAP.

CHAP. II.

Of the Materials neceſſary for theſe Works.

I. *THE chief Materials are,* 1. Rectified Spirits. 2. Gums. 3. Roſins. 4. Colors. 5. Metals and Minerals prepared for this Purpoſe.

II. *Rectified Spirits.* They are made from Wine, or Sugar, or Mault Liquors; or from Cyder, Perry or Moloſſos; or from the common Spirits made of thoſe things by Rectification. They are for the Diſſolution of Roſins or Gum Roſins; and therefore if not highly rectified, are unprofitable for theſe Uſes. Now, to know whether your Spirit is good or no, you muſt put ſome of it into a Spoon, and put a little Gun-pouder to it; then ſet the Spirit on Fire, if it burns all away and fires the Gun-pouder after it, it is good, and will diſſolve your Gums; otherwiſe, not.

III. *Gum-Arabick.* Chuſe that which is whiteſt, clear and tranſparent: it is of Uſe for to make Gum-water, and is worth about 12*d.* a pound.

IV. *Iſing-glaſs* or *Ichthyocolla.* That which is cleareſt, whiteſt and freeſt from Yellow, is the beſt. It is of Uſe for making Size; and may be had for about 4*s.* a pound, more or leſs.

V. *Sanguis Draconis* or *Dragons Blood.* You muſt chuſe that which is the brighteſt Red, and freeſt from Droſs or Filth: the beſt is that which is called *Drops*, made up in a kind of Leaf or Huſk, worth about 7, 8 or 9*d.* an ounce, according to its Goodneſs: that which is in Lumps or Cakes, is courſe.

VI. *Cambogia* or *Gutta Gamba.* You are to chuſe that which is the brighteſt Yellow, and freeſt from Droſs; not that which is brown, dirty, groſs, and thick or cloudy. It eaſily diſſolves in Water, and makes a yellow-ſtaining Liquor, to waſh Pictures and Maps with; and is worth about 7*s.* a pound.

VII. *Gum-Lac*, called *Seed-Lac.* The beſt is that which is bright, clean, large grain'd, and free from Duſt, Sticks and Droſs: it is worth from 12 to 18*d.* the pound, according to the Goodneſs.

VIII. *Gum-*

VIII. *Gum-Lac*, called *Shell-Lac*. The beſt is that which is moſt tranſparent and thinneſt, and which, if melted with a Candle, will draw out into the longeſt and fineſt Hair, like melted Sealing-wax, becauſe of its toughneſs. It is ſometimes adulterate, and therefore you may diſcern the true by theſe Directions: beſides its Uſe for making Varniſhes, it is the principal Ingredient for making Sealing-wax: the beſt is worth from 16*d.* to 2*s.* the pound.

IX. *Gum-Animi*. It is either Oriental, coming from the *Eaſt Indies*, or Occidental, coming from the *Weſt Indies*, as in *Hiſpaniola*, *Cuba*, *Jamaica*, *New Spain*, &c. It is a Roſin of a whitiſh Yellow, much reſembling *Gum-Copal*. The beſt is whitiſh and clear, like unto white Amber, and that which is moſt tranſparent, is the beſt: this *Garzias* will have to be *Cancamum*, but it is not.

X. *Gum-Copal*. It comes from *Hiſpaniola*, *Cuba*, and other places of the *Spaniſh Weſt Indies*: it is of a yellowiſh white color, odoriferous, fine, clear and tranſparent. Chuſe that which is whiteſt, cleareſt, moſt tranſparent, and freeſt from Droſs. It is not ſo ſweet or odoriferous as the *Gum-Animi*, nor ſo fat or oily; but it is more pure, clear and white, and of the more excellent Subſtance; and therefore to be choſen before the *Animi* for mechanical Uſes.

XI. *Gum-Sandarack*. It is brought from *Barbary* in little longiſh Tears or Drops, of a whitiſh-yellow color, and almoſt tranſparent, very hard, and if reduced into fine pouder, is called *Pounce*: this diſſolved in Linſeed Oil, makes that called *Liquid Varniſh*. That which is largeſt and whiteſt, and caſts the leaſt yellow, is beſt, being free from Droſs or Duſt. It is worth about 12*d.* a pound.

XII. *Benjamine*. That which is the brighteſt and of the moſt tranſparent color, and very like to clarified Roſin, is the beſt. There are ſeveral kinds of it; as, 1. The *Amygdaloides*, which has white bits or ſpots in it like blanched Almonds. 2. The *Greyiſh*. 3. The *Blackiſh*: but that which is hardeſt and moſt tranſparent, is to be choſen for our Uſes.

XIII. *Roſin*. The beſt is that which is clear and tranſparent, and clarified or freed from its Droſs and Filth, worth about 4*d.* a pound: but there is a white Roſin,

Roſin, which is alſo white and clear, and worth about 5 *d.* or 6 *d.* a pound.

XIV. *Maſtiche.* It is the Gum of the *Lentisk-tree* growing in *Chio*, *Ægypt* and *Syria*, and is brought to us out of *Turky*, from *Smyrna* and *Aleppo*, but the beſt is from *Chio*, which is of a light color or whitiſh yellow, free from Droſs or Filth, in grains or drops, friable, clear, and almoſt tranſparent.

XV. *Olibanum.* This was the true ancient Incenſe; but from what Tree it is produced, Authors have not agreed. But my ſelf being in the *Weſt Indies*, I gathered it plentifully from the *Floridian* Cedar, which is the *Cedrus Baccifera:* See my *Seplaſium*, *lib.* 9. *cap.* 38. *ſect.* 3, 4. The beſt is in roundiſh drops, ſome bigger, ſome leſſer, and it is pure without either Bark or Wood, of a yellowiſh white, (but the whiter the better) and which, if crackt or broken, are very clear, and almoſt tranſparent. This may ſupply and be uſed in place of *Maſtiche*, (if that is wanting) and poſſibly is the better Roſin of the two.

XVI. *Gum-Elemi.* That which is the ſtiffeſt, whiteſt and cleareſt, and freeſt from Droſs or Filth, is the beſt. It comes from the *Spaniſh Weſt Indies*, and is a bright, white, ſoft, and almoſt tranſparent Roſin, enclining to a yellowiſh-greeniſh color.

XVII. *Turpentine.* There are ſeveral ſorts of Turpentine, as the *Common*, *Venetian*, *Strasburg*, *Cyprus* and *Chio*; of all which *Varniſhes* may be made: but that which is chiefly in uſe in theſe Works, are the *Venetian* and *Strasburg*; of which two, the former is the moſt uſeful; chuſe that which is whiteſt, cleareſt and fineſt, which is worth about 16 or 18 *d.* the Pound.

XVIII. *Bole Armenius.* This is that which we call fine Bole, and is as fine as *Red Oker*, and is of a deep dark, blackiſh Red Color, ſoft, and as it were greaſy, and free from Gravel, Sand, or other filth: if it is choice and good, it will ſtick very faſt to the Tongue when it touches it.

XIX. *Lamp-Black.* It is made by the burning of Lamps, having many Wicks, covered with a very large Top, at a due diſtance, to receive the Smoak, which continually ſticking upon this Top, produces this black Color: every half Hour take off the Top, and with a Feather

Feather ſweep off all the black on it: ſnuff your Wick, and put on the Cover again; and thus continue till you have what Color you deſire, or all your Oil is burnt up. A Quart of Oil, valued at 6 *d.* will make *Black* enough to do a large Cabinet: It is of Excellent Uſe for *Black Varniſh.*

XX. *Maſticot.* It is a Mineral Yellow, and made of Lead. ℞ *The firſt Calx of Lead made by Incineration, viz. the grey Aſhes: calcine them in a Reverberatory Furnace with flaming Fire, ſo ordered, notwithſtanding that the Calx may not melt. And when the* Calx *has changed Color, and begins to grow yellow, it becomes that Color or* Pigment *(ſo much in requeſt among* Painters*) which they call* Maſticot. This, if it be yet Calcined till it is Red, it becomes that which they call *Minium.*

XXI. *Red Lake;* the common ſort uſed by Painters. ℞ *any Roots, Woods, Leaves, Flowers as of Alkanet, Braſil, Logwood, Red Sanders, Madder Saffflower, Clove-Gilliflowers, Red Roſes,* &c. *q. v. add to them about a ſixth or eighth part of Salt of Pot Aſhes, and fair water a ſufficient Quantity, which boil away to one half: filter the Liquor, and precipitate the Lake with water in which Alum is diſſolved, or that is acuated with Spirit of Vinegar, Sulphur, Vitriol or Nitre, putting in ſo much till the effervеſcence ceaſes: immediately the whole Liquor will become thick, as if it was Coagulated or Curdled. This* Coagulum *edulcorate by the repeated Affuſion of fair water, ſeparate the Lake by filtration, which dry upon Paper, and keep for Uſe.*

XXII. *Florentine Red Lake:* It is made from *Scarlet Cloth,* or from *Cochenele,* or *Kermes Berries,* (with which the *Scarlet* is Dyed) exactly according to the former Method in all reſpects. And in the ſame manner all other ſubtil Vegetable Colors are produced.

XXIII. *Priming.* It is made of any Color which has a Body; as Cerute, White Lead, Whiting, Brown or Red Oker, Umber, fine Bole, *&c.* ground in Oil pretty light. If the color is too dark, it may be altered, by adding a little White Lead: with this your Work may be thinly primed over, and ſo ſuffered to dry.

XXIV. *Fat Oil.* Put Linſeed Oil into Leaden Veſſels made like Dripping Pans, ſo much as to be an Inch deep: expoſe them to the Sun for 6 Months, till it becomes as thick as Turpentine: the longer it ſtands the fatter

fatter it will be, and give to Gold a greater gloſs. If it is almoſt as thick as Butter, ſo as you may in a manner cut it with a Knife, it is admirable, and ought to be carefully kept for Uſe.

XXV. *Drying Oil.* Mix Linſeed Oil a Quart, with Litharge of Gold ℥ij. or iij. and boil them for a Quarter of an Hour: if you would have it more drying, boil it a while longer; but have a care of boiling it till it is too thick, and unfit for uſe. Or thus. Take Red Lead and Umber in fine pouder, ana ℥iſs. Linſeed Oil ℔ij. boil as before: If when it has ſtood 2 days, it has a Skin over it, it is then fit for Uſe. Drying Oil is worth 2 *d.* an ounce, and fine Varniſh 3 *d.* an Ounce at the Color Shops.

XXVI. *Oil of Turpentine.* It is uſed to diſſolve the Colors, and make them ſpread the better, and to make the Work to dry the ſooner, and is now worth about 6 *d.* or 8 *d.* a Pound.

XXVII. *Braſs Duſt*, commonly called *Gold Duſt.* The beſt, (which comes from *Germany*) is that which is fineſt, and of the brighteſt and moſt Gold-like Color, which you may perceive, by taking a little of it between your Finger and Thumb, and rubbing them together; if it is good, it will be of a bright, rich, Golden Luſtre: if bad, it will be of a dull clayiſh Color. The courſer ſort works well with Gold Size, but not with Gum Water: It is of differing Prizes, according to the goodneſs: the beſt is worth 12 or 14 *s.* the Ounce, whilſt ſome other ſorts of it is not worth above 4 or 5 *s.* the Ounce, being very mean and bad. The middle ſort, which is worth 8 or 9 *s.* the Ounce, will work well.

XXVIII. *Silver Duſt.* The beſt comes from beyond Sea, having a lively bright Luſtre, like that of Poliſhed or new Coined Silver, which you may find by rubbing it between your Finger and Thumb: whereas the worſer ſort (which is made in *England*) is dull, dead, and heavy, more fit for a Color, than a Metal: by comparing them together, you may ſee the difference. The beſt is worth 16 *s.* the Ounce: the other counterfeit is not valuable.

XXIX. *Green Gold.* It is an Adulterated or mixt Metal, caſting a kind of dead greeniſh color; and is worth about 6 *s.* the Ounce. This, as alſo the following,

are uſed in Garments, Flowers, Houſes, and the like, making the work look more beautiful and ſurprizing.

XXX. *Sullied* or *Dirty Gold*. It is another kind of Adulterated Metal, bearing ſome reſemblance to droſſy Gold, its price is 6 *s*. the Ounce, and is uſed for the ſame occaſions as the former.

XXXI. *Tin Duſt*, or *Pouder*. It is made of Block Tin ground to Pouder, which is of a dull, dark, but Silveriſh Color, made uſe of in Rocks, *&c*. and is Sold for 6 *s*. an Ounce.

XXXII. *Natural Copper Pouder*. It is made of Copper ground without mixture, to Duſt: this is of the true natural color of Copper, and is Sold for 6 or 7 *s*. the Ounce.

XXXIII. *Artificial Copper Pouder*. This exceeds the Natural, and is more deep and Red, but very clear, and of a bright ſhining color, which ſhews how far Art can out-do Nature: it is Sold for about 10 *s*. the Ounce.

XXXIV. *Adulterate Copper*. It is of a thick, heavy, dull, Metalick color, and commonly uſed to work other Metals on: for being laid as a Ground, you may hatch or heighten with bright Gold, or other ſhining Metal; and is Sold for about 6 *s*. an Ounce.

XXXV. *Speckles*. They are of divers ſorts, as Golden, Silver, Copper, and many other colors, ſome finer, ſome courſer, which are to be uſed according to the Fancy of the Artiſt, and as the nature of the matter may require: they are uſed on Mouldings, outſides and inſides of Bowls, Cups, Boxes, Drawers, *&c*. Thoſe of Gold, Silver and Copper are uſed about *Indian* Work. They are made in *England* very well, and are Sold each of them at the ſame price, *viz*. 4, 5 or 6 *s*. an Ounce, according as they are in fineneſs, and to be had at a Gold Beaters, over-againſt *Mercers Chappel* in *Cheapſide*; and at another of the ſame Trade, at the *Hand* and *Hammer* in *Long Acre*.

XXXVI. *Colors Tranſparent*. Theſe are laid upon Gold, Silver, or ſome light color; by which they are made to appear in their true colors, very lively and beautiful. Of theſe there is, 1. *Fine Verdigriſe* for a Green. 2. *Fine Lake*, for a Red. 3. *Fine Smalt* for a Blew. Theſe muſt be ground upon a *Porphyry*, with *Nut Oil*, ſo much as will juſt moiſten the Quantity, and make it fit

fit to work, grinding till the Mass is as fine and as smooth as Butter: then it is to be put into Muscle Shells and mixed with *Oil of Turpentine*, till it is thin enough for Use.

XXXVII. These being laid upon Gold, Silver, or any other light color, will be Transparent, and change their Lightness or Darkness, according to the Metals, Colors, or Ground you lay under them: but in grinding *Red Lake*, you must use Drying Oil, instead of Nut Oil.

XXXVIII. *Opake or Embodied Colors.* These are laid upon the Black of your designed Work, where you would have Birds, Beasts, Flowers, Shrubs, Trees, *&c.* The chief of these are, 1. *Vermilion* for a Red. 2. *White Lead* for a White. 3. *Flake White*, which is a pure white, if it be for any Nice Work. 4. *Oker* or *Orpiment* for a Yellow. 5. *An Opake Blew:* this must be made with *Smalt*, grinding it with Gum *Arabick* water, and adding White Lead to give it a Body, in such Quantitys, as to make it lighter or deeper, as you desire it: and thus you must do with all transparent Colors, which have not a Body of themselves.

XXXIX. Some use *Rosett*, *Fine Lake*, and *Sea Green* for a *Purple:* as also other sorts of Reds and Greens; which ways of working are very manifold, and require much Practice and Experience to find out what things to mix together, and their various and just proportions for lightness or deepness of the Color.

XL. *Lastly, all these Opake Colors are to be layed with Gum Water:* those who have a mind to work either in Gum Water or Gold Size, shall in what follows receive sufficient Directions: But the Transparent Colors are to be wrought with *Nut Oil*, as has been said already.

CHAP. III.

Of Sizes and Gum-Water.

I. *To make Isinglass Size.*

℞ Fine Isinglass in small bits ʒj. fair water ℔ iss. let it stand 12 Hours only warm: afterwards let it boil,

but very gently, and continue the ſimmering till it is all diſſolved, the water being alſo waſted away to a Pint or leſs: let it cool, and keep it for Uſe. It will be thick like a Gelly, but will not keep above 2 or 3 days; ſo that you ought to make no more than preſent occaſion requires.

II. *To make Gold Size.* ℞ Gum Animi, Aſphaltum ana ℥j. Minium, Litharge of Gold, Umber, ana ℥ſs. all being in very fine pouder, add thereto Linſeed Oil ℥iiij Drying Oil ℥viij. (*in Cap.* 2. *Sect.* 25.) digeſt over a gentle Fire which does not Flame, ſo as it may only ſimmer or bubble up, not boil, (for fear of ſetting the Houſe on Fire, ſhould it run over) keep it conſtantly ſtirring with a Stick, till the whole Maſs of Ingredients are diſſolved and incorporated, and forbear not ſtirring it till it becomes thick and Ropie, and is boiled enough: being almoſt cold, ſtrain it through a courſe Linnen Cloth, and keep it for Uſe.

III. *To prepare it for working.* ℞ of this Gold Size *q. v.* put it into a Muſcle Shell, adding Oil of Turpentine enough to diſſolve it, making it as thin as the bottom of your *Seed-lac-Varniſh*, hold it over a Candle to melt, and then Strain it thro' a Linnen Rag into another Shell: To theſe add *Vermilion*, ſo much as to make it of a darkiſh Red. If now it is too thick for Drawing, you muſt yet add ſo much *Oil of Turpentine* as may make it thin enough for that purpoſe. The cheif uſe of this Size is for laying on of Metals, which we ſhall hereafter teach you.

IV. *The beſt Gold Size for Burniſhing.*

℞ Fine Bole *q. v.* grind it finely on a Marble with Water; then ſcrape into it a little tried Beef Suet, grind all well together: after which mix a ſmall proportion of Parchment Size, with a double proportion of Water, and it is done.

V. *To make Silver Size.*

℞ Fine Tobacco-pipe Clay, grind it ſmall, (and if you pleaſe, you may add a little Lamp-black, to turn it of a light Aſh color) ſcrape into it a little Deers Suet, and grind them together extreamly fine; then add a mixture of Size and Water as before-directed.

VI. *Another Silver Size.*

℞ Fine Tobacco-pipe Clay in fine pouder *q. v.* ſcrape into

into it ſome black Lead and a little *Genoua* Soap: grind them all well together; then grind them with Parchment Size, *ut ſupra.*

VII. *A Size for Silver or Gold.*

℞ Fine Bole in fine pouder ℔j. black Lead ℥ij. in pouder, grind them together: then add Oil Olive ℥ij. Bees Wax ℥j. melted together: grind all theſe very finely in a Maſs; and laſtly grind them together with Parchment Size and Water. Remember this, That you never grind more Gold or Silver Size at a time than will ſerve the preſent Occaſion.

VIII. *To make Parchment Size.*

℞ Cuttings of clean Parchment ℔j. (price about 3 *d.*) fair Water ℔iv. boil to a Gelly: ſtrain hot, then let it cool, and it will be a ſtrong Size. This may be uſed, as well as for the former Occaſions, in white Japan-work, inſtead of Iſing-glaſs Size.

IX. *The way to uſe this Size.*

Melt ſome of it over a gentle Fire, and ſcrape into it as much Whiting as may only color it: mix and incorporate them well together with a clean Pencil: with this Frames, *&c.* may be whited or prepared, rubbing it well in with your Bruſh, that it may enter into every hollowneſs of your Carved-work, *&c.* letting it dry on. Melt the Size again and put in more Whiting, ſo as to make it ſomewhat thick; and with this you are to whiten over your Frames, *&c.* 7 or 8 times, letting it throughly dry between each time: but after the laſt going-over, before it is quite dry, you are to dip a clean Bruſh-pencil in fair Water, to wet and ſmooth it over; which, when throughly dry, you are to ruſh it over as the neceſſity of the Work ſhall require. Afterwards with a Gouge or Chizel, not half a quarter of an inch broad, open the Veins of the Carved-work which the Whiting had choakt up; then with a fine Rag wetted and your Finger, carefully ſmooth and water plain it all over; which, when dry, is then fit to receive the former Gold and Silver Size.

X. *To make Gold Size in Oil.*

℞ Yellow Oker in fine pouder *q. v.* mix it with Linſeed Oil, which is ſomewhat fat *q. ſ.* grind them well together, and put the Maſs into a Gally-pot, upon which put ſome fat Oil to keep it from skinning: cover it cloſe

with Bladder or Paper, and keep it for Uſe: it will keep good 10 or 12 years, and be better, not worſe. This Gold Size is always preſent and ready for any urgent Occaſion: and if you would have your piece extraordinarily done, let it be twice thinly primed over with the Priming in *cap. 2. ſect. 23.* and laid by for 3, 4 or 5 days, to dry throughly.

XI. *To make Gum-Water.*

℞ The whiteſt, cleareſt and beſt Gum-*Arabick* ℥j. fair Water ℥xij. mix and diſſolve: when throughly diſſolved, ſtrain it thro' a fine *Holland* Rag, and keep it in a Glaſs Bottle for Uſe.

XII. Laſtly, *As to Iſing-glaſs Size, this Caution is to be obſerved.*

When you lay Blews, Whites, or any other Colors with it, let it not be too ſtrong, but rather very weak, and ſufficient to bind the Colors, and make them ſtick on the Work; for if it is too ſtrong, it will be apt to crack and fly off. But when you lay or waſh with clear Iſing-glaſs, to keep your Varniſh from ſoaking into or tarniſhing your Colors, then it is to be ſtrong, and of a full body.

CHAP. IV.

Of making Varniſhes.

I. THE beſt white Varniſh.

℞ *Of the whiteſt and largeſt Gum-Sandarack which caſts the leaſt yellow* ℥xvj. *of clear* Venice *Turpentine* ℥iij. *whiteſt Gum-Animi and Gum-Copal,* ana ℥iſs. *choice Maſtiche* ℥j. *cleareſt Benjamin, Gum-Elemi, white Roſin,* ana ℥ſs. *To the Sandarack and Maſtiche in pouder, put rectified Spirit of Wine* ℔jſs. *in a Bottle by it ſelf. To the* Venice *Turpentine, Animi and Benjamin, (both in fine pouder;) put of the ſaid Spirit* ℥xij. *To the Copal and Roſin in pouder, put of Spirit* ℥viij. *To the Elemi, by it ſelf, put alſo of Spirit* ℥iv. *diſſolve each apart, becauſe they more eaſily and better diſſolve apart than together, ſhaking the Bottles once in two hours for the firſt day, and then once or twice a day for 2 or 3 days*

days more: this done, thro' a fine Linnen Strainer ſtrain all the Diſſolutions in each Bottle into one large one: digeſt all together for 6 or 7 days, the longer the better, and gently decant as much as will run clear, reſerving the thick and muddy part for ordinary Uſes, as mixing with other Varniſh for black work, and to gloſs the inſides of Boxes, *&c.*

II. Another white Varniſh inferior to the former.

℞ *Gum- Sandarack in pouder* ℥xij. *beſt rectified Spirits* ℔iv. *mix, ſhake them well together, and digeſt for 2 or 3 days: then decant or ſtrain the clear into another Bottle.* ℞ *Maſtiche in pouder* ℥xij. *rectified S. V.* ℔iv. *digeſt 2 or 3 days as before, then decant or ſtrain into another Bottle, and keep it for Uſe.* Now, when you deſign to Varniſh a Print or any other thing with theſe Varniſhes, you muſt mix theſe two together thus. ℞ of the Sandarack Varniſh ℥iv. of the Maſtich Varniſh ℥viij. mix them well. The reaſon of this Mixture, is, that we may have the Varniſh to anſwer our deſire in Hardneſs or Softneſs: when you have ſet by your Work for 2 days, you may try its Temperature, by preſſing your warm Fingers on it; if it leaves its Print behind it, it is then too ſoft, and you muſt uſe a waſh or two of the Sandarack Varniſh, to harden it: but if it not only reſiſts your Touch, but has ſome Streaks, Flaws or Crackles like Scratches in it, more or leſs, it is then too hard, and muſt then be helpt with a waſh or two of the Maſtiche Varniſh.

III. To make Seed-Lac Varniſh.

℞ *Beſt rectified Spirits* ℔viij. *Seed Lac* ℥xxiv. *put all into a very wide-mouthed Glaſs Bottle; mix and digeſt 24 hours, or till it is diſſolved, often ſhaking it very well, to keep the Gum from clotting together: this done, take another Glaſs Bottle as large, and ſtrain the diſſolved Matter thro' a Strainer of Flannel, ſhaking all well together before you paſs it thro' the Strainer; and then in ſtraining, ſqueeze it with your Hand, leaving the Fæces or Drugs behind, which are of no Uſe, but to be caſt away: then ſtop up the Bottles of Varniſh, digeſt in a warm Sand heat 3 or 4 days, and being well ſettled, decant off very gently the top or pure clear of your Varniſh, ſo long as it will run clear, and no longer. Let the remainder ſettle again for 3 or 4 days, and decant off all that which is fine, and keep it for Uſe.*

IV. *Now, here is to be noted,* That upon any urgent

Occaſion you may make this Varniſh in leſs than 24 hours time, and uſe it immediately; but the former Preparation is the better: beſides which, the clear Varniſh you thus decant off from the top of the Bottle, is of extraordinary Uſe to adorn your Work, and make it more gloſſy and beautiful. Some make this Varniſh by boiling, but that is an ill way, becauſe the Strength of the Spirit is loſt, which ought eſpecially to be preſerved; beſides which, you may hazard the ſetting your Houſe on Fire, and therefore alſo to be avoided.

V. To make Shell-Lac Varniſh.

℞ *Of beſt rectified Spirits* ℔viij. *of the beſt ſhell Lac* ℥xxiv. *mix and ſhake them well together, and let them ſtand* 24 *or* 48 *hours, and ſo ſtrain* ut ſupra *thro' a Flannel Bag, and keep it cloſe ſtopt for Uſe.* This is that which the common Varniſhers moſtly uſe, for that it has a double or treble Advantage with it; 1. That you need not wait any time for its Perfection, but it is fit for Uſe the ſame moment it is made. 2. It has a greater Body than that of *Seed Lac*, and therefore leſs Labor and leſs Varniſh goes to perfecting the Work, and make it look tolerably bright. 3. That it is a fit Varniſh for ordinary Works which require not poliſhing, it looking well when firſt done, or for a ſmall time; but it is commonly attended with a Miſt or Dulneſs.

VI. *Theſe following things are alſo to be obſerved.*

1. That the *Seed-Lac Varniſh* has much Sediment and Dregs in making it; whereas this *Shell-Lac Varniſh* has none, for it wholly diſſolves, and is free from all Fœces and Droſs or Foulneſs; yet it is requiſite to ſtrain it, leſt any Sticks or Straws ſhould be in it. 2. That tho' this Varniſh has no Sediment, yet it is much inferior to the other in other Reſpects; for this *Shell-Lac Varniſh* will never be fine, clear and tranſparent as the other is, and therefore it will be in vain either by Art or Induſtry to endeavor the making it ſo. 3. That if you deſign a neat gloſſy piece of Work, you muſt totally baniſh this Varniſh from your Uſe: but it is commonly uſed in ordinary Varniſhings, as of Olive-wood, Wallnut-tree, and the like.

VII. Another mixt Shel-Lac Varniſh.

℞ *Of Shel-Lac Varniſh* ℔iij. *Venice Turpentine* ℥vi. *mix and diſſolve in a gentle Sand heat.* This will harden well,

well, and is a Varniſh good enough for the inſides of Drawers, Frames of Tables, ſtand Pillars, Frames of Chairs, Stools, and the like.

VIII. To make a Yellow Securing Varniſh.

℞ *Venice Turpentine q.v. boil it* per ſe *in a Pipkin with a very gentle Char-coal Fire, ſtirring it continually with a Stick: boil it ſo long till being cold, it may be crumbled into a fine yellow Pouder. Take of this Pouder* ℥i. *of the fineſt Seed-Lac Varniſh* ℥iv. *mix them in a large Glaſs Bottle, ſtop it cloſe, and digeſt in a very gentle heat or only warmth, till the Roſin is moſtly diſſolved, now and then unſtopping the Glaſs, to prevent its breaking: then digeſt 2 days cool, and decant the clear into another Bottle, and keep it cloſe ſtopt for Uſe.*

IX. *Here is to be obſerved*;

1. Whatſoever you deſign to do with this Varniſh, whether Gold-works, Metals, Colors, Rocks, Plains, Woods, or other Figures, to give them a Gloſs, and keep them from Tarniſhing, ought to be done in a warm place, that it may alſo the ſooner dry; if that cannot be had, you muſt give it the ſpace of half an hour to dry in, between every waſh, however it will become gloſſy either way. 2. Take a Pencil proportionable to your Work, dip it in the Varniſh, and go over your Work ſprig by ſprig, and part by part, as Leaves, Stalks, Flowers, Rocks, Figures, *&c.* with a ſteady Hand, having a care not to treſpaſs in the leaſt upon your Black or Ground-work. 3. Having run over all your Work thus 3 or 4 times, (not oftner, leſt you ſpoil the Color of your Metal) reſt ſatisfied, that your Work, whether of Gold-ſize or Gum-water, is defended againſt any thing of Tarniſhing, or whatother Injury of Air or Age ſoever, and that there is added to the native Luſtre of the Metals a very bright, admirable and durable Gloſs.

X. A white poliſhing Varniſh, much like ſome of the *Indian* Performances.

℞ *Venice Turpentine* ℔j. *fair Water* ℔iij. *mix and boil all over a gentle Fire in a clean Pipkin, ſtirring it often with a Stick ſo long, till when cold, you can reduce it to fine pouder, which will be white as Paper.* ℞ *of this Pouder* ℥i. *of Seed-lac Varniſh* ℥viii, *put all into a Bottle which will hold* ℥xx. *ſtop it cloſe and digeſt over a gentle heat (now and then opening the Glaſs) till the Turpentine is nearly all diſſolved:*

then

then digeſt in a cool place for 2 or 3 days, and decant the cleereſt for Uſe. You muſt waſh oftner with this Varniſh than with that juſt before, before you can make your Work acquire a glittering Poliſh.

XI. *Here is to be obſerved;*

Firſt, That your piece now lying before you, drawn and finiſhed, you may ſecure againſt all Danger by means of this laſt Varniſh. Take a fit, neat, clean Varniſh-pencil, dip it into this Varniſh, (put into a little Gally-pot) always ſtroaking it againſt the ſides of the Pot, for fear it ſhould be too full of Varniſh; and with this (without any diſtinction) waſh over your whole Work, both Draught and Ground, and repeat it 5 or 6 times, as you ſee your Gold or Metal keeps its color, gently warming it and throughly drying it between each waſh, but let it be but juſt warm, for if more, it will ſpoil all.

XII. *Secondly*, This being done, and that very evenly and ſmoothly, let it lye 4 or 5 days or more, and then poliſh it thus: ℞ *Tripoli* in fine pouder, and a fine Rag, dip the Rag into a Baſon of Water, and lick up with it ſome of the *Tripoli*, with which rub your Work with a gentle and even Hand, till it becomes ſmooth and gloſſy; and let your chief Aim be to render your Ground or Black ſmooth and bright.

XIII. *Thirdly, To take off the* Tripoli, you muſt uſe a ſoft Spunge dipt in Water, to waſh your Work with; and then a clean, ſoft, dry Rag, to free it wholly: after which mix a little Oil and Lamp-black together, and with a fine Rag rub it up with that, and then with a dry Rag clear it from the Black and Oil: laſtly, with one clean, ſoft, dry Rag more, rub it gently ſo long till it ſhines, and is ſufficiently poliſht, according to the utmoſt of your deſire.

XIV. To make Varniſh for Prints or Pictures in Oil, called *Turpentine Varniſh.*

℞ *Venice Turpentine* ℥iij. *put it into an Earthen Pot over the Fire: when melted, add to it Oil of Turpentine* ℥vj. *as ſoon as they boil, take off the Pot, and when cold, put it up into a Glaſs Bottle, which keep cloſe ſtopt for Uſe.* With this you may varniſh your Prints on Glaſs, or other things, to render them tranſparent; and this is what the Shops ſell for fine Varniſh. If it ſhould prove too thick,

thick, you may make it thinner by an Addition of more Oil of Turpentine.

XV. A more excellent Varniſh for Pictures in Oil, or making Prints tranſparent.

℞ *Of the beſt Oil of Turpentine* ℥xlviij. *pure, clear, white Maſtiche in fine pouder* ℥xviij. *mix and ſhake them well together till the Maſtiche is diſſolved: then hang the Bottle in a Veſſel of Water, but not ſo deep as to touch the bottom, and make the Water boil for half or three quarters of an hour or more, taking it out in that ſpace* 3 *or* 4 *times, to ſhake it*; ſo will you have Varniſh as good in its kind, for theſe Purpoſes, as any other whatſoever.

CHAP. V.

Of making ſome other kinds of Varniſhes.

I. *Common Liquid Varniſh.*

℞ Linſeed Oil *q. v.* Gum Sandarack *q. ſ.* being in fine pouder, mix and diſſolve over a gentle heat, and keep it for Uſe.

II. *A Varniſh for Painted Pictures.*

℞ White Roſin ℔j. Gum Arabick, Venice Turpentine, Linſeed Oil, *ana* ℥ij. firſt melt the Roſin and Linſeed Oil together, and ſtrain it very hot: ſteep the Gum in Oil Olive *q. ſ.* till it is diſſolved, and ſtrain it: mix both theſe together, and add the Turpentine; then digeſt over a Stove Fire till they are well mixed, and ſo keep it for Uſe. When you have occaſion for it, uſe it hot.

III. *Another for the ſame.*

℞ Gum Sandarack, Olibanum, both in pouder, *ana* ℥iv. Venice Turpentine *q. ſ.* mix, melt and incorporate over a gentle Fire, and ſtrain it hot out. When you have need of it, uſe it hot, and it will dry immediately, and ſhine, and be gloſſy.

IV. *Another for the ſame.*

℞ Pure clear Amber (diſſolved in Oil of Turpentine) ℥iij. mix it with refined Linſeed Oil ℥j. over a gentle Fire, ſtirring them well, and it is done,

V. *A*

V. *A good Varniſh for Gold, Silver, Braſs, Copper, Iron, Steel, Stone, Wood, Velom or Paper.*

℞ Benjamin in fine pouder *q. v.* rectified Spirits ſo much as to ſupernate 4 inches: digeſt 4 days, then ſtrain it, and it will be bright and ſhining, drying immediately, and retain its Brightneſs many years. *Note,* If it is Silver which is to be varniſhed, you ought to uſe the white part of the Benjamin only; but if it is Gold, or any thing gilded, chuſe the clear part of the Benjamin; and before ſtraining, put in a few Blades of Saffron for the Color ſake.

VI. *A Varniſh for Wood and Leather.*

℞ Tincture of Saffron, or Turmerick made with rectified Spirits ℔j. prepared Gum-lac *q. ſ.* diſſolve the Gum in the Tincture, and it is done. This Varniſh is alſo of great Uſe to lay over Gold and Silver, or any thing which is expoſed to the Air.

VII. *A Varniſh particularly for Gold, Silver, Tin or Copper.*

℞ Linſeed Oil ʒxij. Maſtiche, Aloes, *ana* ʒj. (in pouder) mix all in a glazed Earthen Pot, which cover with another; in the bottom of which let be a hole, wherein to put a ſmall Stick with a broad end, to ſtir withal: cover them all over with Clay, (except the hole) ſet it over a gentle Fire, and ſtir it as often as it boils up for a while, and then ſtrain it for Uſe. Firſt let the Metal be poliſhed, then ſtrike it over with this Varniſh.

VIII. *To make a common ſort of Varniſh.*

℞ Rectified Spirit ℔iv. Shell-lac ʒix. Roſin ʒiij. diſſolve the Gums in a gentle heat, (being cloſe covered) then let them ſettle, and ſtrain or decant off the clear, which keep cloſe in a Glaſs Bottle for Uſe. The thick which remains you may ſqueeze thro' a Strainer, and keep for other Purpoſes.

IX. *To make common Varniſh.*

℞ Gum Sandarack in pouder, Oil of Spike, Oil of Turpentine, *ana* ℔i. mix and diſſolve over a gentle heat, and it is done. If thro' Careleſſneſs the Fire ſhould catch hold of it, clap a Pewter Diſh or Cover, with a wet Woollen Cloth, the top of the Veſſel cloſe, and it will immediately go out.

X. Vernix Italica, *The* Italian *Varniſh.*

℞ Pure Venice Turpentine ʒviij. evaporate to dryneſs over

over a very gentle heat, and reduce it into pouder: affuſe thereon *gradatim* Oil of Turpentine twice its weight; digeſt till the Pouder is diſſolved: decant the clear from the Fœces, and keep it for Uſe.

XI. *The Maſtich Varniſh.*

℞ Oil of Turpentine ℔ij. Grains of Maſtich in fine pouder ℔j. or ſo much as the Oil will diſſolve: when cold, ſeparate the clear from the Fœces, and keep it for Uſe.

XII. *The Olibanum Varniſh.*

℞ It is made altogether as the former: ſo alſo a Varniſh of *Gum Animi*, of *Copal* and of *Gum Sandarack*. Theſe *Maſtich*, *Olibanum*, *Animi*, *Copal* and *Sandarack* Varniſhes are all of good Uſe for the preſerving and ſetting off of Pictures: and being laid upon things Gilded, or Silvered over, or laid over with the Leaves of any Metal, they ſo preſerve them, that they looſe not their Color or Gloſs.

XIII. *To make a Red Varniſh.*

℞ Rectified Spirit ℔ij. Shell-lac ℥iv. *Sanguis Draconis* in fine pouder ℥viij. Cochenele ℥j. digeſt a week over a gentle heat, and ſtrain out for Uſe.

XIV. *To make a Yellow Varniſh.*

℞ Rectified Spirit ℔ij. Saffron ℥j. infuſe 4 days, ſtrain out, and add *Sanguis Draconis* ℥ij. fine Aloes ℥j. digeſt a week in a gentle Sand heat, and ſtrain out.

XV. *An excellent Univerſal Varniſh.*

℞ Of the beſt rectified Spirits ℔iv. of the beſt Oil of Turpentine ℥viij. Gum Animi, or Copal, or Gum Sandarack in fine pouder ℔j. mix, and diſſolve by digeſting in a gentle heat: decant the clear, and keep it in a Bottle cloſe ſtopt for Uſe.

XVI. *The Amber Varniſh.*

℞ Clear Amber in ſubtil pouder *q. v.* affuſe thereon Linſeed Oil or Oil of Walnuts, ſo much as may melt the Pouder: gently boil them till they acquire a black color; then pour all out upon a wet Marble: beat this Maſs into pouder, and diſſolve it *gradatim* in a ſufficient quantity of prepared Linſeed Oil, and keep it for Uſe; as varniſhing Canes, Sticks, Fans, Pots, Cups, Tables, Stones, Statues, Cabinets, *&c.* being laid on with a hard Bruſh Pencil, the better to ſpread it over.

XVI. *The*

XVII. *The* Indian *Varniſh for Cabinets, Coaches, and ſuch like.*

℞ Rectified Spirits ℔iv. Seed-lac or Shell-lac ℥xij. put them into a Glaſs Body and diſſolve in *B. M.* (but be ſure the Water in the *Balneum* boils not, for then it will turn the Varniſh white:) ſtrain thro' a Flannel Bag, and keep it in a Glaſs Bottle cloſe ſtopt for Uſe. *This preſerves Leaf Silver it is laid on from the Injuries of the Air, and makes the Silver look of a Gold color; for which Reaſon Coach-makers and others uſe it.* If it is laid on any other Color, it makes it look very much more beautiful: and if in any place it lyes rough, you may poliſh it with fine Pouder of *Emery* and Water, or rather with *Tripoli.*

XVIII. *A ſtrong Varniſh or Cement to make a Diſplain on a Wall.*

℞ Lime and Sand, which temper with Linſeed Oil *q. ſ.* This ſpread upon the Wall, will harden to the Hardneſs of a Stone, and will not decay in may Ages. *This is the ſtrongeſt and moſt laſting Varniſh, Cement or Plaſter for this Purpoſe; but if you cannot get Oil, you may temper your Lime and Sand with ſcummed Milk; and this you will find will laſt 6 times as long as the common or ordinary Plaſter, made of Lime and Hair with Water.*

XIX. *To make an excellent White Varniſh.*

℞ Rectified Spirits ℔iv. Oil of Turpentine ℥iv. Gum Sandarack, Maſtich in fine pouder, *ana* ℥xiij. ℥iij. Gum Animi in fine pouder ℥ij. ℥vj. mix; digeſt in a large Bolt-head or Matraſs, in a very gentle *B. M.* or Sand heat, not full out boiling, which ſtop well or cover with a blind Head; and in about 8 hours time all will be diſſolved: decant the clear into a Glaſs Bottle well warmed before-hand, in which keep the Varniſh cloſe ſtopt for Uſe.

XX. *If you Varniſh upon Paper paſted on a Board, you muſt firſt prepare your Paper with Iſing-glaſs Size,* rubbing it over with a Bruſh of Camels Hair 2 or 3 times, which is to be throughly dryed each time; then putting a little of the Varniſh into a warm Gally-pot, (you muſt ſtop the remainder cloſe, for fear, if the Spirits ſhould evaporate, the Varniſh ſhould curdle and the Gums ſeparate) lay on the Varniſh with a Bruſh ſeveral times, letting it ſtand an hour before the Fire between each waſhing over:

ver: after 3 or 4 days time of drying it, poliſh it with fine Pouder of *Tripoli*, *Emery* or *Putty*, by help of a Rag and a little fair Water.

XXI. Vernix Japanica, *The Japan or* Indian *Varniſh by another Proceſs.*

℞ Rectified Spirits ℔iv. Seed-lac in fine pouder ℥xxxij. mix them well, by ſtrongly ſhaking them in a Glaſs ſo long till the Spirit has diſſolved the Lacca: digeſt 2 days, ſhaking it 2 or 3 times a day: then let it ſettle and ſtrain thro' a Flannel, or decant the clear; which keep in a Bottle cloſe ſtopt for Uſe.

XX. *Now, here is to be obſerved*;

1. That this thin Varniſh, being laid upon any thing, immediately drys, and that it ought to be continually laid on, till it is thick enough and the Superficies equal and ſmooth. 2. That it is chiefly to be uſed in *April*, *May*, *June*, *July* or *Auguſt* in a clear ſhining day; or if in cold Weather, in a cloſe warm Room with an Iron Stove in it, or before a good Fire; otherwiſe it will be apt to chill, and your Work will be cloudy and opacous, not clear and bright: after which it is to be dryed in a gentle heat for 6 or 7 days. 3. That it may be laid over any Color, by which means the Color will look much more beautiful and glorious; or otherwiſe it may be mixt with the Color, being in fine pouder and moiſtned with rectified Spirit; or if the Color will yeild a Tincture, it may be mixt with a Tincture of the ſame color. 4. That being put upon Leaves of Metal, as of Gold, Silver, Tin, Braſs, it makes them look much more glorious, and preſerves them alſo. That the Varniſhed things may be made ſmooth and even by rubbing them with Pumice-Stone and Oil Olive: and *laſtly*, they may be farther poliſht by rubbing them with Chalk or Putty, by which means they will ſhine, and look as clear as Glaſs.

XXIII. *A Varniſh to preſerve Timber or Wooden Works from Rotting.*

℞ The beſt and hardeſt Roſin, purify it well: add to it a ſufficient quantity of Linſeed Oil, ſo much as may conveniently ſerve to toughen it; melt and incorporate them well together: then take Umber ground very fine, and mix therewith; which being well mixed together,

and

and whilſt hot, you may lay on and varniſh Timber or other Wooden Work therewith at pleaſure.

XXIV. *Here is alſo to be obſerved*;

That it is an excellent Varniſh to preſerve Timber or Wooden Work, the Border-boards of Gardens, or any other thing, which you would have laſt long in Wet or Moiſture, as the Pillars of *Horizontal* Dials, Wooden Pails, Rails, Gutters, Arbors, *&c.* for it lies like *China* Varniſh, and will endure 10 times as long as any Painting. 2. That it is an excellent thing to prime Hogſheads or Barrels with which you uſe to keep Water in, Wooden Ciſterns, *&c.* which may be done both within and on the outſide; and being ſpread on Cloth with a Trowel, it will make a moſt excellent Covering for Tents, Huts, Pent-houſes, Houſes of Pleaſure, *&c.* 3. That the burnt Umber is the beſt Color to mix with it, yet you may mix other Colors therewith, as *Minium*, *Maſticot*, *Litharge*, *Verdigriſe*, &c. but this laſt ſome object againſt, becauſe of its corroding Quality. 4. That the beſt way of laying it on, is, firſt to heat it hot, for ſo it will ſtick the cloſer and faſter to the Wood.

XXV. *To Prepare Linſeed Oil for the Amber Varniſh at* Sect. 16. *above.*

℞ Linſeed Oil *q. v.* put into it a piece of Bread; ſo will an Effervеſcence be made by the Aqueous Particles: then put in ſome *Alcali*, as Lime, Chalk, Whiting, and ſeveral Calces of Lead, that the Acid may be abſorbed: let it ſettle, decant the clear, and clarify it; ſo it is prepared. ℞ of this prepared Oil, and put in *per vices*, Pouder of Amber, Sandarack, *&c.*

CHAP. VI.

Of making Japan Varniſhes.

I. *White Japan Varniſh.*

℞ Thick Seed-lac Varniſh or the beſt white Varniſh ℥vj. white Lead or flake Lead in ſubtil pouder, enough to color it white; mix them. 2. ℞ of the thickeſt, or rather beſt white Varniſh ℥vj. Venice Turpen-

tine

ine ʒj. mix them well: add white or flake Lead enough o color it. 3. ℞ of the fineſt white Varniſh ʒvj. pure lake Lead in fine pouder, enough to color it white: ix them to be uſed as ſhall hereafter be directed.

II. *Black Japan Varniſh.*

1. ℞ Of the thickeſt Seed-lac Varniſh ʒvj. Lamp-black nough to color it: mix them in a Gally-pot. 2. ℞ of he thickeſt Seed-lac Varniſh ʒvj. *Venice* Turpentine ʒi. . ℞ of the fineſt Seed-lac Varniſh ʒvj. Lamp-black *q. ſ.* ix them, to be uſed as hereafter directed.

III. *Another Black Japan Varniſh.*

Make the two firſt degrees as before: then take of the ineſt Seed-lac Varniſh, of the beſt white Varniſh (in *p.* 4. *ſect.* 1.) *ana* ʒiij. mix them well; and then Tinture it with Lamp-black as before-directed.

IV. *Red Japan Varniſh.*

1. ℞ The thickeſt Seed-lac Varniſh ʒvj. Vermilion *q. ſ. viz.* as much as your Judgment and Experience hall direct you, to give it a good Tincture: mix and eep it for Uſe.

V. *A deep or dark Red Japan.*

1. Make the Red in the former *Section.* 2. ℞ thick eed-lac Varniſh ʒvj. fine *Sanguis Draconis* in ſubtil poueer *q. ſ.* mix them. 3. ℞ fine Seed-lac Varniſh ʒvj. *Sanuis Draconis* in fine pouder *q. ſ.* mix them for Uſe.

VI. *A pale Red Japan Varniſh.*

℞ Vermilion *q. v.* mix it with ſo much white Lead s to make it become of the Paleneſs you deſire, or raher paler, becauſe the Varniſh will heighten it: mix his with Seed-lac Varniſh, according to the afore-going ethods.

VII. *Olive-colored Japan.*

℞ Thick Seed-lac Varniſh ʒvj. *Engliſh* Pink in ſubtil ouder, mixed with Lamp-black and white Lead in due roportion *q. ſ.* mix them for Uſe. If it is too light, elp it with Lamp-black: if too dark, with white Lead: too green, with Umber ground fine, for this will take way the Greenneſs.

VIII. *Cheſtnut-colored Japan.*

1. ℞ *Indian* Red or Red-brown Oker, grind with ordinary Size or Water till it is as fine and as ſoft as Butter; then mix a little white Lead, which grind ſtrongly s before: and laſtly Lamp-black in a fit proportion,

ſtirring and mixing them well together. 2. If the Mix-
ture is too bright, darken it with Lamp-black: if t
dark, lighten it with white Lead, varying the Proport
ons till you have perfected the Color you aim at; f
what Color exactly you have when thus mixt and w
the ſame alſo will ariſe when varniſhed, tho' dryi
without Varniſh, it will look otherwiſe. 3. ℞ thi
Seed-lac Varniſh ℥vj. of the former prepared Color q.
mix them in a Gally-pot over a very gentle Fire, f
Uſe.

IX. *Blew Japan.*

1. ℞ White Lead, grind it upon a Porphyry wi
Gum-water till it is impalpable. 2. ℞ the fineſt a
beſt Smalt, which mix with Iſing-glaſs Size: to this p
of your white Lead ſuch a proportional quantity as y
would have it in ſtrength of Body: mix theſe together
the Conſiſtence of common Paint. 3. If the Blew is t
pale and weak, add more Smalt, and no white Lea
but if it is too deep, then add more of the white Lead

CHAP. VII.

Of making Lackering Varniſhes.

I. *THE common Lacker Varniſh.*

℞ Rectified Spirits ℔iv. Shel-lac in pouder ℔
put them into a Gallon Glaſs Bottle, and let them ſta
till quite diſſolved: ſtrain, and then add a little co
mon *Sanguis Draconis* in ſubtil pouder, and a little Tu
merick in fine pouder, both tyed up in a Rag: digeſt
day or two, often ſhaking it, and it is done. Wh
note, *That you may heighten or diminiſh the Color, by e
creaſing or diminiſhing the quantity of the coloring Ingr
dients.*

II. *Another Lacker.*

℞ Rectified Spirit ℔iv. Shel-lac ℔j. diſſolve and ſtrai
then inſtead of common *Sanguis Draconis*, take a ye
little of Drop or fine *Sanguis Draconis* in fine pouder, a
Engliſh Saffron dryed; which tye up in a fine Linn
Rag, and put into the Varniſh as before. *If you wo
have the Color deeper, or more like Copper, add more* Sangu
Dracon

Draconis; *but if lighter and more pleaſant, then the more Saffron.*

III. *A Lacker Varniſh to be uſed without Fire or Sun.*

℞ Of the following Varniſh in *ſect.* 4. ℔iv. *Venice* Turpentine ℥ij. iij. or iv. mix and diſſolve it well with the Varniſh. *With this you may Lacker or Varniſh any thing in the open Air, which, altho' it may look dull and cloudy juſt after Varniſhing, yet will that quickly vaniſh, and it will obtain in a ſhort time a pleaſing and goodly Luſtre.*

IV. *To make the beſt ſort of Lacker Varniſh now uſed by the Gilders.*

1. ℞ Fine Seed-lac Varniſh (in *cap.* 4. *ſect.* 3.) ℥xii. with which mix Ornatto in fine pouder *q. ſ.* diſſolve it in a Gally-pot over a gentle Fire, which reſerve in a Bottle cloſe ſtopt. 2. ℞ fine Seed-lac Varniſh ℥xij. Cambogia in pouder as much as it will diſſolve in a gentle Sand-heat: reſerve this alſo in a Glaſs cloſe ſtopt for uſe. 3. ℞ Seed-lac Varniſh ℔ij. and add to it 5 or 6 Spoonfuls of the firſt reſerved Tincture, and 10 or 12 Spoonfuls of the ſecond reſerved varniſh Tincture; to which add dryed Saffron ℥ſs. tyed up in a Rag: digeſt 24 hours, being firſt well ſhaked together. 4. Then make a Tryal of this Varniſh upon a bit of Silver; if it is too yellow, put in more of the *Ornatto* or firſt reſerved varniſh Tincture; but if too red, then put in more of the *Cambogia* or ſecond reſerved varniſh Tincture: thus encreaſing or diminiſhing the Proportions till you have brought it to the exact Golden color, which is the Ultimate or only thing aimed at.

V. *To Lacker Oil Painting, Sized Works, or Burniſht Silver.*

Warm your Frame or piece of Work before the Fire, then putting out ſome of your Lacker into a large Gally-pot, with a fine large and faſt Bruſh of Hogs-hair or Camels-hair, nimbly paſs over your piece, and be ſure to miſs no part of it, nor yet to twice waſh any of the ſame; but be ſure to lay it thin and even, and preſently warm it by the Fire whilſt it looks bright; for by theſe means you may Lacker it again in a quarter of an hour, warming it before and after the Operation. Repeat the Work twice or thrice, and if the Color is not deep enough, do it a fourth time; but beware of doing it too deep, for that is a Fault not to be mended.

VI. *To make Lackering look like Burnisht Gold.*

If your Silver is before-hand well burnished, and your Lacker of a true Gold color, and it be carefully laid on with an even hand, not thicker in one place than in another, matting it as you do burnisht Gold; it will be so exactly like Gold Foil or Gilding, that it will be able to deceive the most subtil and curious Eye, not before-hand acquainted with the Fallacy.

VII. *Now, here is to be noted;*

That in Lackering Carved Works, you must be quick and strike or jobb your Brush against the hollow parts of it, to cover them also, matting or varnishing them deeper and more dull than other parts of your Frame or Piece: and this deepning is done with the Lacker Varnish made deeper with the *Ornatto* Varnish, (or with *Ornatto* it self worth about 4 *d. per* ounce;) which being well mixt with the same, all the hollow and deep Places and Veins of your Work, are therewith to be touched and deepened; whereby you accomplish its Color, and bring the Reflection of a perfect Glory.

CHAP. VIII.

Of the Way and Manner of Varnishing.

I. THE Intent of Varnishing, is, either to preserve the Gloss of Paintings or Pictures, or else to represent and imitate the Forms of shining and perlucid Bodies.

II. To Varnish Paintings and Pictures, 'tis no more but with a Pencil dipt in the Varnish, to go over the same, then letting it dry; and so going over it so often as in Reason you shall see convenient.

III. If you are to imitate any thing, as *Amber*, *Lapis Lazuli*, *Marble*, *Tortoise-shell*, &c. you must first make the Imitation of them upon that which you would Varnish, with their proper Colors, as in Limning or Painting with Oil, which must be throughly dry: then by the former *Section* go over all with the Varnish so often, till you see it thick enough, letting it dry every time leisurely.

IV. How

IV. How to uſe the *Securing Varniſh* and the *white Poliſhing Varniſh*, we have at large taught you in *cap.* 4. *ſect.* 9, 11, 12, 13. ſo that no more need be ſaid of it in this place.

V. Having Varniſhed your piece ſufficiently over, and being perfectly dry, according to the Nature and Curiosity of it, it is to go either unpoliſhed, or to be poliſhed. If it is to be poliſhed, 1. You are to rub it with a fine Rag, and fine Pouder of *Tripoli* and fair Water till the greateſt of its Roughneſs is taken away. 3. Then waſhing it clean from the *Tripoli*, if it is black Varniſh, you muſt perfect the Poliſhing of it with another fine Rag, Lamp-black, and a little Oil Olive, rubbing it ſo long with them till it ſhines and looks like a perfect Mirrour or Looking-glaſs; but if it is a white or light-colored Varniſh, you muſt take (inſtead of the Lamp-black) very fine Putty or Chalk, rubbing with that in like manner till the Poliſhing is perfect.

VI. This being done, to clear the Varniſhing of the Lamp-black, or Putty, Chalk and Oil, you muſt rub it with a fine, ſoft, dry Rag till the Lamp-black, Putty, Chalk and Oil are lickt up with it, and totally vaniſh: after which taking one clear, fine, ſoft, dry Rag more, rub it gently and evenly till it acquires the Cleanneſs, Gloſs and Luſtre you deſire.

CHAP. IX.

Some general Obſervations in Varniſhing.

LET the Wood you would Varniſh be cloſe grain'd, free from all manner of Knots, Flaws, Holes or Greaſineſs, and very ſmooth and clean; which, if ſo, then Ruſh it well all over with your *Dutch* Ruſhes.

II. Lay with your Varniſhing-pencils your Blacks or other Colors very even and ſmooth, without any Knobs, Aſperities or Roughneſs: if any ſuch thing appears, with your Ruſh take them away: and this you muſt continually do ſo long as thoſe Impediments ſhall follow your Work.

III. Work always in a Stoved Room (if in Winter) and near a Fire, keeping your Work always warm, but by no means hot, for then it will certainly bliſter, or crack and flaw, which is irreparable, and can never be rectified or amended but by ſcraping off all the Varniſh.

IV. After every diſtinct waſh you ought to let the Work be throughly dry; if not, it will always be full of Knobs, Aſperities or Roughneſſes, which will enforce you to the continual Uſe of your Ruſhes.

V. Let your Work lye and reſt after it is Varniſhed as long as may be, or as your Convenience will admit; ſo will it prove the better, and receive the more exquiſite Poliſhing.

VI. In Varniſhing, begin always your Stroak in the middle of the Table, Box or Plain, (and not from one end to reach to another) and ſo ſtrike it to one of the ends; then taking it off, put it to the place you began at, and draw it to the other end; and thus continue it till the whole Plain is Varniſht over.

VII. For if you ſhould at one ſtroak draw your Pencil from one end to another, it would hang upon the Edges and Mouldings of your Box or Piece, the Varniſh lying in Drops and Splaſhes, cauſed by the Bruſhes being at beginning of the Stroak over charged and too full of Varniſh; for which Reaſon you ought to ſtroak your Pencil once or twice againſt the ſides of the Gally-pot to hinder this Abundance or Superfluity.

VIII. When you come to Poliſhing, let your *Tripoli* be ſcraped with Glaſs or a Knife, that it may be as fine and ſoft as Pouder for Hair; let your Rags alſo be very ſoft, fine and clean, tho' for the more ordinary or common Work, courſer *Tripoli* and Rags may ſerve: rub indifferently hard, but ſmooth and even, Poliſhing one place as much as you intend for that time, before you leave it and paſs to another.

IX. Never Poliſh your Work to the ultimate ſmoothneſs at one time, but let it reſt 2, 3 or more days after your firſt Endeavours, and then give it the finiſhing and concluding Stroaks.

X. Be careful alſo that you come not too near the Wood, leſt your Work looks thin and hungry, and as it were Thread-bare: if you wear the Varniſhing thus too

too much away, there is no Remedy for it but by another Varniſhing.

XI. Uſe a large Quantity of *Tripoli* at firſt Poliſhing, till it begins to be ſmooth; afterwards a ſmall matter will be ſufficient; and be ſure there be no Gravel, Grit, Sand, or grating matter in it, leſt it raſe or ſcratch your Work: if ſo, you muſt rub (with the Rag about your Finger) till you have poliſht them out.

XII. When you come to clearing up your Work, waſh off your *Tripoli* with a Spunge and Water, and afterwards wipe it dry with old, ſoft, dry Linnen.

XIII. Then (your piece being black Varniſh) mix *Lamp-black* with Oil, and with another ſoft, dry Rag rub your Work all over with it, letting no corner or Moulding eſcape; for this will abſolutely free your piece from the remaining *Tripoli*.

XIV. This done, with another fine, clean, ſoft Rag or Cloth, rub it well all over, not ſparing any pains, with a nimble and quick Stroak, and as hard as you well can; ſo will its Gloſs and Luſtre be incomparable.

XV. But if it is white Work, when you are come to clearing it up, you muſt not ſully it with *Lamp-black*; but give the finiſhing poliſh to it by Oil mixt with *Putty*, or *White Chalk*, or Grounds of *Hair Ponder*; concluding with a fine, ſoft, dry Rag or Cloth, as in the former.

CHAP. X.

Of Varniſhing Wood without Colors.

I. TO *Varniſh Olive Wood, Tables, Stands, Cabinets, Looking Glaſſes, Dreſſing Boxes*, &c. *Ruſh* over the piece you intend to *Varniſh*, which being well done, ſet it by a ſoft and gentle Fire, that it may be well warmed, and ſo made fit to receive the Varniſh.

II. Then waſh it 10 or 12 times over with *thick Seed lac Varniſh* (which remained after the top or fine was poured off) with a *Pencil* fitted to the bigneſs of your Table, Cabinet, Frame, *&c.* letting it throughly dry between every waſhing.

III. If any Hillocks, Knobs or roughneſs does appear, when dry, then ruſh them off, at every turn as you meet with them; and continue Ruſhing it, till it is very ſmooth.

IV. After all this, waſh it over again, ſix ſeveral times with the *fineſt* of the *Seed lac Varniſh*; and ſo let it ſtand three days, to dry throughly.

V. Then take *Tripoli* ſcraped with a Knife: and take a fine ſoft Rag, dip it in fair water, and then in the *Tripoli*, with which rub and poliſh it, till it acquires an admirable ſmoothneſs and gloſs.

VI. But you muſt be very careful, that you rub it not, nor wear away the Varniſh too much, for that is no ways to be repaired, but by freſh Varniſhing it again.

VII. After you have rubbed ſome conſiderable time with the Rag and Tripoli, you will do well to uſe the Rag often wetted without *Tripoli*, whereby you will obtain the better Gloſs.

VIII. Then wipe off your *Tripoli* with a Spunge full of fair water; and afterwards wipe off the water with a dry Rag: Rub it with *Lamp-black* and *Oil* all over, and wipe off that with a dry Cloth: and clear it with another.

IX. If after all this pains, your Work looks dull and heavy, and the Varniſhing miſty, (which is cauſed by poliſhing it before it was throughly dry, in moiſt, damp Weather) you muſt give it another ſlight Poliſh, and clear it up, as before, and that will give it its due Luſtre.

X. If you have been too ſparing of your Varniſh, ſo that it is not thick enough to endure a through Poliſh, you muſt uſe again your *fineſt Seed lac Varniſh*, giving it 5 or 6 Waſhes more.

XI. And then, after 4 or 5 days time, in which it will be throughly dryed, you muſt Poliſh it, and clear it up, as before.

XII. If you deſire to keep the abſolute, true, natural and genuine color of the Wood, you muſt then only uſe the *White Varniſh (in Cap. 4. Sect. 1.)* for that is the only thing which compleatly anſwers this end, for that being often waſhed with it, it neceſſarily heightens and increaſes the true natural Olive Color.

XIII. *To Varniſh Wallnut Wood.* The ſame Method is to be obſerved in this as in that of *Olive*, and the ſame

Rules

Rules will hold exactly in all other ſorts of Wood which are cloſe and hard, and of a ſmooth Grain, as Box, Lime-Tree, Pear Tree, Yew, *&c.*

CHAP. XI.

Of Dying or Staining Wood, Bones, Ivory and Horns.

I. SOmetimes Tables, Stands, Cabinets, Dreſſing-Boxes, Looking Glaſſes, Frames, *&c.* being made of differing Woods, and of Colors which are diſliked, you may by the following Rules, Dye or Stain ſuch ſorts of Woods, Bones, Horns, *&c.* of what Colors you pleaſe, and then by the former Rules Varniſh upon them; ſo will they look very pleaſing to the Eye, and as if truly Natural.

II. *To Dye Wood of a Beautiful Red.*

Make a ſtrong Alum water, put your Wood into it, and let it boil a little: then take it out, and put into the ſaid Water a ſufficient Quantity of Ground Braſil Wood: put your Wood in again, and boil a Quarter of an Hour, and it is done. When dry, Ruſh and Poliſh it, and you will find it a Rich and Beautiful Color. Note, *Woods which are white, take this Dye beſt.*

III. *To Dye or Stain a fine Yellow.*

Take Knotty Aſh, or any other Wood which is white, curled, and knotty; ſmooth and Ruſh it well; then warm it at the Fire, and with a Bruſh dipt in *A.F.* waſh over the Wood, and hold it to the Fire (as you do *Japan* work) till it leaves ſmoaking. When it is dry, *Ruſh* it again, for the *A.F.* will make it very rough; Poliſh it, and if you pleaſe Varniſh it with fine *Seed-lac* Varniſh; and being dry, then Poliſh the Varniſh, and you will find (becauſe the knotty and curled parts will admit of great Variety) that no Out-landiſh Wood will ſurpaſs it, and that a pleaſing Variety will be interwoven, much beyond whatever you could imagine or expect. Note, *If alſo you put Filings of Metals, as of* Silver, Copper, Braſs *or* Iron *into the* A.F. *or* Gold *into it with* Salt *or* Sal

Armoniack

Armoniack, *each Metal will produce a different Tincture, which will Dye the Wood accordingly.* They oftentimes Stock Piſtols with ſuch kind of Wood as this.

IV. *To Dye or Stain Woods for Inlaid or Flowred Works for Cabinet-makers.*

℞ Juice of the moiſteſt or new-made Horſe-dung ℥viij. put it into 6, 7 or 8 ſeveral Veſſels, and put into each Veſſel Roch Alum and Gum Arabick, *ana* about the quantity of a large Nutmeg, diſſolving them: then put into each Veſſel a different Color, as Red, Green, Blew, Yellow, Orange Tawny, Purple, *&c.* ſuffering them to ſtand 2 or 3 days, often ſtirring them: then take your Wood, (cut thinner than an Half Crown, and of what breadth you pleaſe) *viz.* Pear-tree or other white Wood, put it into the ſaid ſeveral Liquors boiling hot, in which let it lye as long a time as is needful, to color it, but ſome pieces longer than others, for the longer they lye in the Liquor, the deeper and higher the Color; ſo will you take them out throughly dyed, and of as many differing Colors as there were Pots of Liquor.

V. *To Dye or Stain Wood Black.*

℞ Logwood and boil it in Water or Vinegar, and whilſt very hot bruſh over or dip your Wood in it 2 or 3 times: then take Galls p. iv. broken into bits, Copperas p. j. boil them well in the Water, with which waſh the Wood ſo often, or ſteep it in the Liquor till it is perfectly black.

VI. *To Dye Bone, Horn, Ivory,* &c. *Black.*

℞ *A. F. q. v.* put bits of Braſs into it, letting it ſtand till it is turned green, with which waſh your Bone, Horn, Ivory (being firſt Poliſhed) 2 or 3 times: then put them into a ſtrong Decoction of Logwood in fair Water whilſt hot, letting them lye a while: which done, Ruſh and Poliſh them, and they will be as black, and have as good a Gloſs as any Japan or Ebony.

VII. *If you would have any Figure or ſet of Flowers,* &c. *remain white upon the Ivory,* draw them neatly on the Ivory with Turpentine Varniſh before you ſtrain it; for thoſe places which are covered with the Varniſh, are ſo ſecured, that the Dye or ſtaining Matter cannot touch or diſcolor them. After the Matter is dyed, you may hatch, engrave or cut them with a Graver according as you de-

ſign,

ſign, and then fill thoſe Lines with Lamp-black mixt with Oil, to make them appear in their Perfection.

VIII. *To Dye or Stain Bones, Horn, Ivory, Wood of a Green Color.*

Firſt boil them in Alum-water, then take Wine Vinegar *q. v.* *Spaniſh* Green or common Verdigriſe well ground *q. ſ.* Sal Armoniack half as much as of the Verdigriſe, mix them, and put the Wood, Ivory, Horns or Bones into the ſame, keeping them in a gentle boiling heat till they are ſufficiently ſtained. If the Wooden Work is too large to go into the Veſſel, waſh it over ſeveral times boiling hot till the Color is good.

IX. *To Dye Bones, Horn, Ivory or Wood Red.*

℞ Rain Water *q. v.* Quick-lime *q. ſ.* mix and let it diſſolve, and ſtand for a night: then decant the clear Water, ſtraining it thro' a Cloth. ℞ of this Water ℔viij. Brazil-wood ſcraped or ground ʒiv. mix and boil gently: then your Wood, Ivory, Horn or Bones (being firſt boiled in Alum-water) put into and boil in the former Tincture of Brazil till it is ſufficiently Red.

CHAP. XII.

Of Varniſhing Prints.

I. GET a ſmooth Board of a ſize fitting your Print or Picture, and with ſtrong common Size made of Parchment or Leather, Size it over thus; Melt the Size at the Fire, and ſcrape Whiting into it to make it of a moderate thickneſs; and with a ſoft Hogs-hair Bruſh or Pencil fit for your Work, waſh it once over, letting it dry: then white it again, and ſo repeat it till it lies with a fair ſubſtantial Body, perfectly covering the Grain of the Wood, whether it be Deal, Oak, Walnut-tree, or any other.

II. Then with your Ruſhes Ruſh off ſome part of your Whiting pretty cloſe, and make it very ſmooth; but do it not ſo much as to diſcover the Grain of the Wood.

III. *With Flower or white Starch and Water make a Paſte*, which with a large Bruſh-pencil beſmear over the back-

ſide

ſide of the Print or Picture, and carefully with an even and ſteady hand lay it upon the Board, preſſing it down and ſmoothing it on, that it may ſtick as cloſe as may be, without wrinkles, cockling, bliſtering or any riſing up; which if you find, lay another dry Paper upon it, and by preſſing and ſtroking the Paper every ways, free it from the ſame.

IV. Be cautious in this Paſting, that it be ſo well done, that not the leaſt ſwelling or bubble be found upon your Work; for if it be, the whole Beauty of the Picture will be loſt and deſtroyed when you come to Varniſhing.

V. Being thus fixed to the Board, let it throughly dry: then take the cleareſt of your Iſing-glaſs Size, (in *cap.* 3. *ſect.* 1.) being juſt warm, with a ſoft Pencil waſh over your Print or Picture: let it be perfectly dry, and repeat this Waſhing again; which reiterate alſo the third time, letting it be throughly dry.

VI. After 3 or 4 days time waſh it over with your fineſt white Varniſh (in *cap.* 4. *ſect.* 1.) in a gentle heat, not too nigh the Fire to avoid bliſtering, letting it dry; and then repeat it 5 or 6 times more.

VII. This done, let it reſt 2 or 3 days, and give it 8 waſhes more of the ſame Varniſh in like manner: let it reſt for 2 or 3 days more, and then give it 6 or 7 other waſhes of the ſame Varniſh.

VIII. Being at length throughly dry, Poliſh it with fine *Tripoli*, a Rag and Water; and laſtly clear it up with Oil and Putty, or white Starch, or Wheat Flower, as is before taught.

IX. *To Varniſh Pictures or Prints without Poliſhing.*

℞ Of the beſt white Varniſh, or Varniſh made with Maſtich and Oil of Turpentine (in *cap.* 4. *ſect.* 15.) *ana* ℥ij. mix them. Into this Mixture dip a Camels-hair Bruſh, and therewith Varniſh over your Print 4 or 5 times by the Fire as you do other Varniſh; and when it is dry, it will have a very rich Gloſs.

X. *To Varniſh Prints or Pictures, and Poliſh them like Japan.*

This is done with Japan Varniſh, waſhing it 5, 6 or 7 times over in all reſpects as the former: then being dry, Poliſh with *Tripoli*, and clear it up with Oil and Putty, &c.

XI. *To*

XI. *To Finish, Polish and Varnish Pictures not laid upon Glass.*

Touch the foreside of your Picture with shell Gold in Gum-water; or else after you have Varnisht it 2 or 3 times with the best white Varnish, take Japan Gold Size, with which hatch and lay it over with Gold Dust: and as your Judgment and Experience shall advise, touch and heighten all the strongest Lights, and deepen your Shadows also, by which you will give so much Life and Spirit to it, as that a Limner himself may mistake it for a piece of real Painting.

CHAP. XIII.

Of Preparing Woods for Japanning.

I. TAke Plaisterers Size, dissolve it over the Fire, making it pretty warm; and mix Whiting with it in fine pouder till it is of a good Body, but not too thick.

II. Take a Brush of Hogs-hair fit for the purpose, with which and the former Mixture lay your Work once over, letting it dry very well: and so often repeat this till you have hid all the Hollownesses, Crevises, Pores and Grain of your Wood, letting it throughly dry between every Laying.

III. Afterwards take a fine wet Rag and rub it over all your Work, till you have made it as smooth as possible; and this is called *Water-Plaining*.

IV. When it is dry, Rush it even and smooth, and as close to the Grain as possibly may be.

V. This done, wash over your Work twice with the thickest of your Seed-lac Varnish, letting it dry each time; and if it is not smooth, Rush it again to make it so.

VI. A day or two after Varnish it over with Black, or what other Color you design, according as has been directed; and when sufficiently dry, you may finish it by Polishing it.

VII. By

VII. By this Method you muſt Prime Carved Frames for Cabinets, Stands or Chairs, if you would have them to look well, ſave that theſe are not to be Poliſhed, and therefore require not ſo great a body of Varniſh, but only to make them to look ſhining and gloſſy.

VIII. But for the tops of Tables, Boxes, ſides of Cabinets, *&c.* where the Wood is ordinary and rough Grain'd, as Deal, Oak, *&c.* you may take common or Joyners Glew, diſſolve it in Water till it is fine and thin, into which put the fineſt Saw-duſt, till it is indifferently thick.

IX. Then with a Bruſh fit for that purpoſe lay it all over your Work; and being dry, repeat it ſo often till all the Roughneſs and Grain of the Wood is ſufficiently hidden.

X. After 2 or 3 days let a Cabinet-maker ſcrape it with his Scraper as Pear-tree and Olive-wood are done, to make it as ſmooth and even as may be; then Varniſh it as formerly directed. This, if well done, will not come behind any other Work for Beauty and Durability.

XI. But after all, if every thing be weighed, your cloſe, firm and ſmooth Grain'd Woods are chiefly and only to be choſen; of all which Pear-tree is the firſt in Eſtimation.

CHAP. XIV.

Of Japanning Wood with Colors.

I. *Black Japan.*

I. YOur Wood being cloſe Grain'd, well wrought and ſmooth, Ruſh it ſmooth, and keep it warm by the Fire or in ſome warm place; but be always careful, that whilſt you Varniſh you ſuffer it not to come ſo near the Fire as to burn, ſcorch or bliſter it, for which Fault there is no other Remedy, but ſcraping off and new Varniſhing the piece again: in this caſe, to work in a Stove, is doubtleſs the beſt way, becauſe it gives an even and moderate heat to all parts of the Room.

II. Then

II. Then take of the Japan Varniſh (in *cap.* 6 *ſect.* 2. N°. 1.) put it into a Gally-pot, and with it firſt waſh over or Varniſh your piece 3 times, letting it dry throughly between each time: again with more of the ſame Varniſh waſh it over 3 other ſeveral times, letting it throughly dry between each time, and Ruſh it ſmooth between each of them.

III. Take of the Japan Varniſh (in *cap.* 6. *ſect.* 2. *n.* 2.) and waſh your Work over with it 6 times, letting it ſtand 12 hours between the 3 firſt and the 3 laſt Varniſhings.

IV. Your Work being thus far done, take the *Japan Varniſh* (in *cap.* 6. *ſect.* 2. *n.* 3.) and with that let it be Varniſhed 12 times, ſtanding 12 hours between the firſt 6 and the laſt 6 Waſhings; then let it lye 6 or 7 days; after which Poliſh it with *Tripoli* and a Rag as before-directed.

V. But in Poliſhing, you muſt work at it till it is almoſt ſmooth, and ſo let it lye for 2 days; then Poliſh it again almoſt enough, and again let it lye 6 days: and laſtly Poliſh it fully, and ſo clear it up with Oil and Lamp-black as formerly directed; ſo will you have a good black Japan, ſcarcely at all inferior to the true *Indian*.

II. *Another Black Japan.*

VI. Lay your Black as before (in *ſect.* 2, 3.) then take of the *Japan Varniſh* (in *cap.* 6. *ſect.* 3.) with which Varniſh your Work 7 or 8 times, letting it ſtand 24 hours between each time to dry; and then repeat it 4 or 5 times more, keeping it but juſt warm.

VII. Then let it ſtand 2 days, and waſh it 6 or 7 times with fine *Seed-lac Varniſh* only; and after 6 or 7 days Poliſh it as before-directed in *ſect.* 4, 5. above.

VIII. *If your Work ſhould after a little time grow duſt, cloudy and miſty*, it is to be remedied with a ſlight Poliſh, and clearing it up afterwards; for that this Dulneſs might be cauſed by reaſon that either your Varniſh was not yet throughly dry, or that it was not laid thick enough on.

IX. *If it is from the firſt Cauſe*, a new Poliſhing mends it: *if it is from the latter Cauſe*, you muſt mend it by 5 or 6 Waſhes more of your fine *Seed-lac Varniſh*; and then Poliſhing again as before.

X. *It*

X. *It is alſo to be noted*, That in this and all other Japan Works you muſt never ſtrike your Pencil twice over the ſame place, for it will make your Colors or Varniſh lye rough and ugly; but let every ſtroak wash a new place, carrying a ſteady, quick and even hand, beginning at the middle of the Table, and ſo drawing your Brush to either end, till the whole piece has been paſſed over.

III. *White Japan.*

XI. In doing this, you muſt let nothing come near it which will foul or ſoil it: your firſt work muſt be to lay the Ground, which is made with Iſing-glaſs Size (in *cap.* 3. *ſect.* 1.) mixt with as much Whiting, ſcrapt into it, as will make it of a reaſonable thickneſs, or ſo long till by a ſtroak of your Pencil dipt into it, it will whiten the plain of your Work; but let it be neither too thick nor too thin: this Whiting with your Hogs-hair Brush mix very well with your Size.

XII. Whiten your Work once over with it, and when it is throughly dry, do it again; and when dry, reiterate it the third time: after which let it dry 12 or 24 hours, covering it from Duſt.

XIII. Then with ſome *Dutch* Rushes, let it be Rusht as near to the Grain of the Wood as you ſee fitting.

XIV. Take fresh Iſing-glaſs Size *q. v.* white Flake *q. ſ.* ſo much as make the Size lye with a fair body; mix them well together, and with this go over your Work 3 ſeveral times, letting it throughly dry between each time; then Rush it very ſmooth.

XV. Then take white Starch boil'd in fair Water till it is ſomewhat thick; and with it, almoſt Blood warm, wash over the whole Work twice, letting it dry between each time; and ſo let it ſtand 1 or 2 days.

XVI. With a pure clean Pencil (washt in rectified Spirit, to free it from Duſt) dipt into the fineſt white Varnish (in *cap.* 4. *ſect.* 1.) wash over your Work 6 or 7 times; and after 2 days repeat the like number of Varnishings again: this, if well done, will give a finer Gloſs than if it was Polisht: but if it is ſlovenly done, Polishing will then be abſolutely neceſſary, for which reaſon you muſt give it 5 or 6 Varnishings more.

XVII. If this laſt is well done, it will need no Polishing; and then two washes more will do: but if it requires

Polish-

Polishing, you must then give it 3, and a weeks time of drying before you begin to Polish.

XVIII. *In Polishing*, you must use the finest *Tripoli* and Rags, not too wet nor too dry, with a light and gentle hand: and in clearing, (instead of Lamp-black and Oil) you must use Putty and Oil, and conclude with white Starch mixt with Oil, to give it the finishing Stroak.

XIX. But there are some who wholly reject this work with Size, liking that only which is performed with *Varnish*: and therefore such may, if they please, use the *white Japan Varnishes* (in *cap.* 6. *sect.* 1 *n.* 1, 2, 3.) exactly, according to the method laid down for the black Japan, in *sect.* 2, 3, 4, 16. above, which will give a more than ordinary Satisfaction: and besides it will not be so ready to Crack or Peel off.

IV. *Blew Japan.*

XX. ℞ Gum-Water, *q. v.* white Lead, *q. s.* grind them well upon a Porphyry. ℞ Ising-glass Size, *q. v.* of the finest and best Smalt, *q. s.* mix them well, to which add of your white Lead before ground, so much as may give it a sufficient Body; these mix together to the consistence of Paint.

XXI. With this mixture, go over your Work, and do it 3 or 4 times, till you see your Blew lies with a good and fair Body, letting it dry throughly between each time: if your Blew is too pale, put in more *Smalt* into your Size, without any *white Lead*.

XXII. Then *Rush* it very smooth, and go over it again with a stronger Blew: and when it is through dry, wash it twice over with the clearest *Ising-glass Size* alone; and covering it, let it dry 2 days.

XXIII. Then gently warming your Piece at the Fire, with a clean Pencil wash your Work over with the finest white Varnish, (in *cap.* 4. *sect.* 1.) repeating it 7 or 8 times, and let it dry again 2 days as before. After which repeat again the third time, your washes 7 or 8 times in like manner.

XXIV. Let it now dry for a Week, and then Polish it as before directed; and with *Lamp-black and Oil* clear it up, to give it a Polite, and Glossy appearance.

XXV. *As to the Color you must be guided by your Reason and Fancy, whether you will have it light or deep,* for a

ſmall proportion of the Lead makes it deep, a greater proportion light. Alſo the Size for laying Whites, Blews, or any other Color, ought not to be too ſtrong, rather weaker, and juſt ſufficient to bind the Colors, to make them ſtick on the Work, for if it is too ſtiff, it will be apt to Crack and fly off. And the Reaſon of waſhing twice with clear Size, is to keep the Varniſh from ſinking into, or tarniſhing the Colors; and in this caſe it ought to be of *a ſtrong and full Body.*

V. *Common Red Japan.*

XXVI. Be Iſing-glaſs Size, or rather the thickeſt *Seed-lac Varniſh*, (as ſome adviſe, becauſe it will not then break off in Poliſhing, as that mixt with Size commonly does, beſides it better helps to bear the body of Varniſh, which muſt afterwards be laid over it) *q. v.* fine pure Vermilion *q. ſ.* as your Reaſon and Judgment ſhall direct: mix them well.

XXVII. Warm your work by the Fire, and with a Pencil Varniſh it with the former mixture; doing it 4 times, and letting it dry between every time; after which *Ruſh* it ſmooth.

XXVIII. This done, waſh it 8 times with the *ordinary Seed-lac Varniſh*, and let it reſt for 12 hours; then *Ruſh* it again, tho' but ſlightly, to make it look ſmooth.

XXIX. Laſtly, for an Exquiſite outward covering, waſh it 10 times with the *beſt Seed-lac Varniſh*; let it lie 7 days to dry, and then Poliſh it with *Tripoli*, and clear it up, with *Oil and Lamp-black.*

VI. *A deep or dark Red Japan.*

XXX. Firſt lay on your common Red, as before directed: then take thick Seed-lac Varniſh *q. v.* fine *Sanguis Draconis* in ſubtil Pouder *q. ſ.* mix it by little and little with the Varniſh: a very ſmall matter of it will extreamly heighten your Color, and every waſh will render it deeper.

XXXI. When the Color is almoſt as deep as you deſign, forbear the *Sanguis Draconis*, becauſe the after layings of the *Seed-lac Varniſh*, will add to the Color what is wanting.

XXXII. Then conſider how many Varniſhings are ſtill to be laid on, and accordingly uſe your *Sanguis Draconis*, perfecting the Work, as is directed in the former *Common Red Japan.*

VII. *A*

VII. *A pale Red Japan.*

XXXIII. Take the pale Red Japan Varniſh (in *cap. 6. ſect. 6.*) and waſh your Work over with it four times, letting it dry between every time; and follow the Method exactly laid down in *Sect.* 27, 28, 29. aforegoing.

XXXIV. Where Note, that in making this mixture, you muſt think with your ſelf, how many times you are to Varniſh after your Red is laid on; for if many, then know, that they will increaſe and heighten the Color, for which reaſon you muſt make your mixture the Paler. In theſe things you muſt be guided both by *Reaſon* and *Experience.*

VIII. *Olive Colored Japan.*

XXXV. Take Iſinglaſs or Parchment Size (in *cap.* 3. *ſect.* 1, 8.) *q. v.* Engliſh Pink in fine Pouder, *q. ſ.* grind them together till they are as thick as Butter: then mix with it Lamp-black, and white Lead in due proportion, which by ſome Tryals you will eaſily find; adding Lamp-black, if too light; white Lead, if too dark.

XXXVI. If it is too Green, help it with *Raw Umber*, ground very fine with Size, for this will take away the Greenneſs.

XXXVII. Or, take the *Olive colored Japan Varniſh* deſcribed in *cap. 6. Sect.* 7. which is very much the better; and with either of theſe, Varniſh over your piece according to the aforegoing Rules, Poliſhing, and cleaning of it, as before directed.

XXXVIII. Where Note, 1. That no Colors laid in Size, will endure ſo ſtrong a Poliſh, as thoſe in Varniſh, but are more ſubject to be rubbed off. 2. That the *finiſhing Varniſh*, muſt be the *beſt white Varniſh*, that the Colors may not *Tarniſh.*

IX. *Cheſtnut colored Japan.*

XXXIX. It is made of *Indian* Red, or brown Red Oker, either of them being ground with Iſing-glaſs or Parchment Size, upon a Porphiry, till they are as ſoft and fine as Butter, *&c.* (in *cap. 6. ſect.* 3. *N.* 1, 2.

XL. Or, take thick *Seed-lac-Varniſh*, and mix it with the ſame Colors as you did the Size; lightning it with the white Lead, if too dark; and darkning it with Lamp-black, if too bright or light, till the Color

reſults which you deſire: this mixture with the *Seed-lac Varniſh* you will find to be much the better.

XLI. The Colors being thus mixt, if you uſe the Size mixture, put ſome of it into a Gally-pot, over a gentle Fire, to melt it, or give it a fit Temper, not too thick, nor too thin: then with a *Hogs-hair-bruſh*, waſh therewith your piece ſmoothly over, and let it dry, which repeat ſo often till your Color lies full and fair.

XLII. Being thro' dry, *Ruſh* it ſmooth, but not cloſe to the Wood, and ſo let it reſt a day or two: and then waſh it with *thick Seed-lac Varniſh* three or four times, letting it dry throughly.

XLIII. Or you may begin and lay your ground Work with the mixture of *thick Seed-lac Varniſh*, (in *ſect.* 40. above) going over your Work as with the Size mixture: and then being dry and ruſhing of it; you may go over with it 3 or 4 times again, with ſimple thick *Seed-lac Varniſh*, letting it dry as before.

XLIV. This being done, whether with the *Size mixture*, or with the *Varniſh mixture*, and they being throughly dry, then Varnish it again up to a Body, with your fine white Varnish, (in *cap.* 4. *ſect.* 1.) till it is fit to be Polished, which perform with fine *Tripoli*, and a Rag and Water, and ſo clear it up with *Lamp-black and Oil*.

X. *Lapis Lazuli Japan.*

XLV. Take Iſing-glaſs Size, or thick *Seed-lac Varniſh*, and make a mixture with *Spodium* or white Lead, with which Varnish your Piece 3 or 4 times over, laying it for a ground Work; letting it dry between each time.

XLVI. Let it lie 2 or 3 days, that it may be throughly dry, and then *Ruſh* it, till it is very ſmooth, letting it lie after the *Ruſhing* 2 or 3 days more.

XLVII. Then take *thick Seed-lac Varniſh* q. v. *and mix with it pure fine Blew Smalt*, with which go over your Work 4, 5 or 6 times, letting it dry between each time: then let it lie 2 days, and *Ruſh* it again.

XLVIII. After it is ſmoothly *Ruſht*, Varnish it twice over with the *beſt white Varniſh*, and let it dry again for two days more. Then mix pure *Ultramarine*, or fine *Blew Smalt*, with the *beſt white Varniſh*, and therewith Varnish it 5, 6 or 7 times, till it comes to a full Body,

dy, and a perfect likeneſs, letting it dry between each time.

XLIX. In the laſt time of Varniſhing with your *blew Varniſh*, run ſtraglingly over all your Piece, in wild irregular Streaks (as a reſemblance of Nature) with *Liquid* or *Shell-Gold*, filling the Blew as you ſee occaſion, and adding very ſmall Specks up and down, and ſuch other various Colors, as are uſual to be ſeen upon the Stone.

L. This done, and the Work throughly dry, Varniſh it 3 or 4 times over again, with the *beſt white Varniſh*, letting it dry between each time: let it lie 2 or 3 days, then *Poliſh* it with *Tripoli*, and clear it with *Lamp-black*, or *Putty and Oil*, as formerly directed.

LI. *Laſtly*, this is to be Noted, that by theſe Methods, you may make and uſe any Color you can Fancy, or which Reaſon and Experience may direct you to: but withal, that all Colors which are Light, and apt to Tarniſh, and looſe their Beauty or Gloſs with *Seed-lac Varniſh*, muſt be covered and finiſhed with the *beſt white Varniſh*, that of *Seed-lac*, being prejudicial.

CHAP. XV.

Of Marble and Tortoiſe Shell Japan.

I. *To make marble Japan.*

I. PRepare your Wood in all reſpects as for *white Japan*; do it over with *Flake white*, or *white Lead*: if you deſign a *White*, with ſome Veins, uſe ſome *Vine Black*, (made of the cuttings of Vines, Burnt and Ground) mix with a very weak *Iſing-glaſs Size*, being warmed, the ſaid *Vine black*, and *white Lead*, making 2 or 3 degrees of it, till you have produced the intended Colors for the Clouds, and Veins of the Marble.

II. Then with a large clean Bruſh, wet your Piece over with Water; and before it is dry, with a *Camels Hair Pencil* dip in the paleſt thin mixture, and lay the tarneſt large Clouds and Veins; which being laid on while the Work is wet, will lie ſoft and ſweet, like that which is Natural.

III. And before it is too dry, with a *ſmaller Pencil*, and one degree darker, gently touch all the leſſer Veins, and variety of the Marble, endeavoring as much as may be, to imitate, the exact foot-ſteeps of Nature.

IV. After this, with a ſmall pointed Feather, and the deepeſt Color, touch and break all your ſmaller Veins, making them irregular, wild, and confuſed, as they appear in the real Stone: then let it dry for a day or two, and waſh it over with *Iſing-glaſs Size*, or *Parchment Size*.

V. Let it dry for 2 or 3 days, and then Varniſh it over with the *beſt white Varniſh* (in *cap.* 4. *ſect.* 1.) 5 or 6 times, letting it dry well between every time: Let it reſt ſeven days, and then Poliſh and clear it up, exactly in all things, according to the directions for Varniſhing, in *cap.* 8. *ſect.* 5, 6.

VI. If you would have it *white* or *grey Marble*, you muſt uſe the *beſt white Varniſh*; but if *yellowiſh*, or of a *Parchment Color*, you muſt uſe the *beſt Seed-lac Varniſh*, either alone, or mixt with the *white Varniſh* at pleaſure.

II. *Another Marble Japan.*

VII. ℞ Of the beſt white Varniſh, (in *cap.* 4. *ſect.* 1.) or of the Varniſh univerſal, (in *cap.* 5. *ſect.* 15.) with which mix white Lead in ſubtil Pouder and Lamp-black, or Ivory-black in ſuch proportings as you ſee fit; making three ſeveral degrees of the ſame.

VIII. With the firſt and lighteſt Degree, go over your whole Piece with a Bruſh Pencil, clouding and marbleing the thing as Nature requires; and go over it 4 times, letting it dry between every time.

IX. With the ſecond darker Degree, and a freſh clean Pencil, go over your Work again, *viz.* Some of the Clouds, and edges of the Clouds, as alſo ſome of the greater and leſſer Veins, ſomething ſhadowing and making them deeper; and this work repeat in differing Places, in ſome twice, in ſome thrice, and in ſome four times.

X. With the third and darkeſt Degree, go over the edges of ſome of the greater Veins, and over all the leſſer Veins, repeating the work in Spots and particular Places 4 times, as you did before.

XI. All this being done, let it lie 2 or 3 days, and ſtrike it over 4 or 5 times or more, either with the *beſt white Varniſh*, or with the *beſt Seed-lac Varniſh*, letting it dry between every time: then let it dry ſeven days, and ſo *Poliſh* it, and clear it, as we have before taught.

III. *To make Tortoiſe Shell Japan.*

XII. That which we endeavor to imitate is *Tortoiſe Shell* laid upon *Silver Foil*, which gives it life and beauty: now to imitate this well, let your Wood be cloſe grain'd, ſmooth, and well wrought, as Box, Pear-tree, Wallnut-tree, *&c.*

XIII. But if it is courſe grain'd, as Deal, Oak, *&c.* you muſt prime it with *Size* and *Whiting*, as we have taught in *cap.* 13. *ſect.* 1, 2, 3. letting it dry between each time, and at laſt *Ruſhing* it ſmooth.

XIV. Then take a fit *Varniſhing Pencil*, and with your *thickeſt Seed-lac Varniſh*, ſtrike over the breadth of a *Silver Leaf*, which taking up with Cotton, lay on upon your Work whilſt it is moiſt, dabbing it cloſe to the Work, as you are taught in *Gilding*.

XV. This done, Varniſh another Place, and in like manner lay on another *Leaf of Silver* as before, and ſo continue, till the whole Work is covered over with *Leaf Silver*: and then let it dry throughly, and with a fine Hair Brush ſweep off all the *looſe Silver*.

XVI. Take *Lamp-black*, or rather *Cologne Earth*, (which comes neareſt to the Color of the Shell) *q. v.* and grind it with Parchment Size, or Gum-water, till it becomes very fine and impalpable: and being finely ground, mix it with more Parchment Size or Gum-water, agreeing with that you firſt ground it withal.

XVII. With this mixture ſpot the darkeſt part of your Shell, after a careleſs cloudy manner, imitating Nature as much as may be, letting a piece of the true Shell lie by you to look upon, thereby to acuate your Fancy and Genius.

XVIII. Take Gum-water *q. v.* and therewith grind fine *Sanguis Draconis* very ſoft; but ſome grind the *Sanguis Draconis* dry, till it is very fine, and then mix it with *fine Seed-lac Varniſh*, which is moſt proper and agreeable for this Work, and not ſo apt to Poliſh off as Size or Gum-water.

XIX. Now whereas, there are ſeveral Reds lighter and darker to be found on the edges of the blacker Part, and ſometimes lie in Streaks, and Clouds, on the tranſparent part of the Shell, we are now to imitate that with one of the two former mixtures of *Dragons Blood.*

XX. Dip a *ſmall Pencil* into one of thoſe mixtures, and daſh the ſaid Reds, fluſhing them in and about the dark Places, both thicker and thinner, fainter and lighter, and with leſs Color towards the lighter part of the Shell: then ſweeten it ſo, that by degrees, it may ſo looſe its ſtrength of Redneſs, as to be quite loſt in the Silver, or more tranſparent parts of the Work.

XXI. This done, give it 6 or 7 waſhes of *fine Seed-lac Varniſh*, (in *cap.* 4. *ſect.* 3.) and letting it dry 1 or 2 days, ruſh it gently and very ſmooth, to make it fit for the next Operation.

XXII. ℞ *Fine Sanguis Draconis, Cambogia, ana q. ſ.* grind them dry to a ſubtil Pouder: mix it with as much *fine Seed-lac Varniſh*, as may Varniſh the piece 6 or 7 times more: and let it dry 12 hours or more.

XXIII. Then give it another or third Varniſhing with the laſt mixture, doing it ſo often over, till the *Silver* ſeems to be changed into a *Gold-like* Color.

XXIV. *Laſtly*, take heed that your Varniſh be not too thick and high colored with the *Sanguis and Cambogia*, but rather heighten it by degrees, leſt your *Silver* be too high colored, before it has received a ſufficient Body of Varniſh. Let it dry 6 or 7 days, then Poliſh and clear it up, as before directed.

IV. *Another Tortoiſe Shell Japan.*

XXV. Firſt prime your piece very well, as you are taught in *cap.* 13. *ſect.* 1, 2, 3, 4. Then Lacker and Size it in Oil, as you are taught in the Art of Gilding.

XXVI. Then lay on your *Leaf Silver*, and let it dry very well: and have ready finely ground in Oil, theſe Colors, *viz. Red Lake, Cinnabar, brown Pink, Cologne's Earth, and burnt Umber*, placing them diſtinctly on your *Paller*.

XXVII. Strike over your work with Turpentine Varniſh (in *cap.* 4. *ſect.* 14.) and whilſt it is wet; mix *lake* and *brown Pink*, thin with Varniſh, and with it lay all your fainteſt Clouds or Spots, which ſoften ſweetly whilſt the Varniſh is moiſt.

XXVIII. Let

XXVIII. Let it ſtand four hours or more, and if the Colors are dry, with a large ſoft Pencil, paſs it lightly over again: and again moiſtning it, put in more Clouds, which more and more darken with *Umber*, and *Cologne Earth*, before it is dry; always obſerving the Life, and ſweetning your Work, which is by blending, and inſenſibly mixing the Colors after they are laid, ſo as you cannot perceive where each of them begin or end.

XXIX. *If the Clouds are not dark enough*, reiterate the Clouding and Varniſhing once more, as you ſee need requires: when well dryed, Glaze it 2 or 3 times with *brown Pink*, with a little *Tincture of Verdigriſe* in it: or you may Varniſh it with *fine Seed-lac Varniſh*, and then finiſh it as the former.

V. *Another Tortoiſe Shell Japan.*

XXX. Firſt lay a white Ground as before taught: then with proper Colors, as *Vermilion*, *Auripigment*, &c. duly mixt with common or *Turpentine Varniſh* ſtreak and cloud, or ſhaddow the *white Ground* with any irregular fancy you pleaſe, as nearly imitating *Tortoiſe Shell* as you can.

XXXI. Let it throughly dry, and then ſtrike it here and there with the reddiſh yellow Varniſh, mixed with a little *Cinnaber*, or *Indian Lake*, clouding it up and down the Work as nature requires; and touching it alſo with *Varniſh*, mixt with *Lamp* or *Ivory-black*.

XXXII. This done, Varniſh it 5 or 6 times over with the *fineſt white Varniſh*, in *cap.* 4. *ſect.* 1. or the *univerſal Varniſh*, in *cap.* 5. *ſect.* 15; or with *fine Seed-lac Varniſh*, letting it dry between every time.

XXXIII. Let it now dry a Week, and with *Pumice-ſtone* in fine Pouder, but rather fine *Tripoli*, and a wet Cloth, Poliſh it by gentle rubbing.

XXXIV. *Laſtly*, go over with it again 4 or 5 times with the *fine White*, or *fine Seed-lac Varniſh*; and when throughly dry, Poliſh it with *Tripoli*, and clear it with *Putty and Oil*, as before declared.

VI. *Another Tortoiſe Shell Japan.*

XXXV. Firſt lay a white Ground as before, and ſmear it over with *Vermilion* or ſome ſuch like, over which lay *Leaves of Gold* or *Silver*, as before taught, with

Gum

Gum Ammoniacum, *lacca Varniſh*, *common Varniſh*, *Size* or *Glair*.

XXXVI. This done, and being throughly dry, ſhadow, cloud, and ſtain it, by ſome of the former Directions, according as the Reaſon and Nature of the thing requires; ſtriking it over here and there with yellow Varniſh, or reddiſh yellow Varniſh, and red Varniſh mixed, with yellow Varniſh in perfect imitation of the Shell.

XXXVIII. *Laſtly*, ſtrike it 6 or 7 times over either with the *beſt white Varniſh* (in *cap.* 4. *ſect.* 1.) or with the *fine Seed-lac Varniſh*, (in *cap.* 4. *ſect.* 3.) letting it dry between every time: then after 7 days drying, Poliſh and clear it as before.

CHAP. XVI.

Of laying Speckles or Strewings on Japan Work.

I. TO *lay Speckles or Strewings on the out or inſides of Boxes*, *Drawers*, *Mouldings*, &c. Mix your *Speckles* (enough to anſwer the preſent Occaſion) with your *ordinary lac Varniſh*, ſo much as may make it fit to Work, but not ſo thick as for Colors, and mix them well with a proper Bruſh.

II. Warm your Piece gently before a Fire, and with a fit Pencil waſh it over with the former mixture, and being dry, repeat it again, and ſo often, till your *Speckles* lie as thick, and as even as you deſire.

III. Then being throughly dry, go over and beautify your Work 3, 4 or 5 times with *Seed-lac Varniſh*, mixt with *Turpentine*, and ſo let it dry; the work being now done, unleſs you intend to Poliſh it.

IV. *But if you deſign a Poliſhing*, then you muſt waſh it 8 or 10 times over with the *beſt Seed-lac Varniſh*, letting it dry every time, after which Poliſh it as formerly directed.

V. All ſorts of colored Speckles may be thus uſed, except thoſe of Silver, the laying on of which requires the *beſt and fineſt* of your *Seed-lac Varniſh*, or the *beſt white Varniſh*, which muſt make it fit for Poliſhing: but if you intend not to Poliſh it, fewer waſhes of your Varniſh will ſuffice.

VI. *To lay Speckles on the drawing part of Japan Work, as on Flowers, Herbs, Trees, Fouls, Beaſts, Rocks, Garments*, &c. Make a Tiffany Sieve of a Wooden Pill-Box, by ſtriking out Bottom and Top, *&c.* Then with your Varniſh and Pencil ſtrike over the Places you would Speckle.

VII. Which done, before it is dry, put ſome of your Speckles into your Sieve, and gently ſhake the Sieve, over the Places you deſign, till they are all ſpeckled according to your Intention.

VIII. *But for Rocks*, with a dry new Pencil, ſweep all the ſtragling *Speckles*, which lie beyond the wet Parts, into, and upon the ſides and top of the Rock, which will render the work not only thicker of *Speckles*, but alſo more Beautiful, and give it a kind of Shadow and Reflexion.

IX. As ſoon as one Part is compleated, you muſt go on with another, but not before the other is perfectly dry; your *Rock Works* alſo, ought to be of different Colors, and as many Shapes, till your whole deſign is Compleated.

X. Your Work being cold, it will certainly for the preſent look dull and cloudy, and as if very ill done, or with ill Materials without either Life or Beauty; but let not this diſcourage you, for it will in a little time obtain its Luſtre and Glory, and by the help of your *Securing Varniſh* be made firm and durable.

CHAP.

CHAP. XVII.

Of Japanning Metals with Gum-Water.

I. *TO work Metals or Colors with Gum-water.*

When you deſign to work *Japan* in *Gum-water*, it is only to be done with thoſe Colors which have a body, not with tranſparent Colors.

II. Take Gum-water (in *cap.* 3. *ſect.* 11.) put it into a Muſcle Shell, with which mix ſo much of your Metal or Color, as may make it neither too thick, nor too thin, but that it may run fine and ſmooth from your Pencil.

III. And beſure you mix no more for your Metals, but ſo much as is requiſite for your preſent Buſineſs; for by keeping mixt they will ſpoil, and become uſeleſs; beſides their gathering of Duſt which renders them unfit for uſe, and ſo unſerviceable.

IV. And for your Colors, your Shells muſt be often ſhifted and changed, for otherwiſe the Colors and Gums will become knobby, thick, and out of Order.

V. Your Metals or Colors thus prepared, and well mixed; with a *Hogs Bruſh Pencil*, lay on your deſign, with a ſmooth and even Hand, drawing the Pencil on the ſide of the Shell, that it may not be over loaded with the Metal or Color, when you deſign to draw ſmall Lines or Stroaks, that they may be clear and fair.

VI. But when you draw broad things, as Leaves, or other large Works, then charge your Pencil full, yet ſo that it may not drop.

VII. *Now here is to be Noted,*

1. That the practiſe of *Gum-water* is uſeleſs and unneceſſary, in the uſe of *Gold Size*. 2. That your *Gum Work* being throughly dryed, you are to run it over 8 or 10 times with your *fine Seed-lac Varniſh*, or *beſt white Varniſh*: and then Poliſh it, and clear it.

VIII. Your Black or Ground, you intend to make your draught on, when cleared up, will be ſo Gloſſy, as if it were Greaſy, ſo that your Metal or Color will not eaſily ſtick on: and therefore you ought to rub it with a *Tripoli* Cloth, and ſuffer it to dry: ſo will the draught

draught of your Pencil be ſmooth and neat, and ſtick on according as you deſire.

IX. *If your work with the Gum-water ſhould not ſucceed to your ſatisfaction*, as not being even, or regular, or lines at a due diſtance (as it may ſometimes happen to young Beginners) you may with the *Tripoli* Cloth wipe out all, or any part, of that which you think unhandſom, or unfit to ſtand, and then immediately make a new draught.

X. And ſo by theſe means, you may mend, alter, add, detract, blot out, change, and variouſly contribute to your Deſign, till the whole Piece is of one intire perfection, and good, and anſwerable to each part of the undertaking.

CHAP. XVIII.

Of Japanning in Gold Size.

I. *THE making and preparing this Size for working*, we have taught in *cap. 3. ſect.* 2, 3. when therefore, you have wrought your Work, and that you purpoſe to decipher on it, you muſt draw this Size all over that Part, and that Part only, which you reſolve to Gild, or adorn with Gold, paſſing over thoſe places where you intend to lay your other Metal or Colors, as Silver, Copper, Braſs, *&c.*

II. *Your Size being thus wrought for the Gold*, let it remain till it is ſo dry, that when you put your Finger upon it, it muſt be glutinous and clammy, and ſtick a little; but not ſo moiſt, that the leaſt particle of it ſhould come off with your Fingers, but that it may be much like to thick Glew, when it is half dry.

III. When it is in this condition, it is the very juncture of Time wherein you muſt apply your Gold; then take a piece of ſoft, waſht Leather, or the like, wrap it about your Fore-finger, dip it into your *Gold Duſt*, and rub it, where the *Gold Size* is laid, for it will ſtick on the Size, and no where elſe.

IV. If

IV. If any Gold Duſt lies ſcattered about your Work, bruſh it all away into your Gold-Paper, with a fine Varniſhing Bruſh which has not been uſed.

V. Then take your *Pencil* again, and draw that part which you deſign for the Copper, with Gold Size alſo: and when it is dry as the former, cover it with *Copper Duſt*, juſt in like manner as you did it with the Gold Duſt.

VI. This done, take your *Pencil* again, and lay *Silver Size* (in *cap. 3. ſect. 5, 6.*) and when it is dry enough, lay on your *Silver Duſt*, in like manner, as you did the two former.

VII. But this you muſt always obſerve, that you lay theſe Metaline Colors ſucceſſively one after another, letting each to be covered and throughly dry, before you begin a diſtinct Color.

VIII. After all theſe, lay your other Colors (not Metaline) if your deſign requires any, with *Gum-water*; reſerving the Rocks, *&c.* for the laſt part of your work.

IX. If you have mixed more Gold Size, than you can conveniently uſe at one time, or that you are called off from your buſineſs, that you cannot finiſh till the next Day, you will obſerve that your Size, even after 5 or 6 hours, will have a Skin upon it: to prevent this, put the *Size* with the Pencils alſo into fair Water, ſo as to be covered, till the next time you uſe them: and if your Size ſhould grow *too thick*, thin it with *Venice Turpentine*: But know, that oftner doing theſe things than once, will quite ſpoil your *Size*, and make it fit only to be caſt away.

X. Let your Size be ſo ordred, that being of a mean Conſiſtency, neither too thick nor too thin, it may run ſmooth and clear, and your ſtroaks be fine and even, ſo that you may be able to draw with it the moſt ſubtil and hairy Lines.

XI. If you would exactly imitate Japan Work, avoid filling and thronging your Black with Draughts and Figures: in true *Indian* Work the Ground is never crouded up with many Figures, Houſes or Trees, but a great ſpace is allowed to a little Work, for the Black adds Luſtre to the Gold; and the Gold gives an Excellency to the Black.

XII. In

XII. In theſe Works ſome Variety of Metals may be indulged, but in a very ſlender proportion to that of Gold, which is the general Ornament and Characteriſtick of the genuine or true Japan-work.

XIII. Be always careful and exact in tracing or drawing out your Deſign in Vermilion or Gold, that it may be done with an even hand: then your Gold Size being ready prepared, with a ſmall Pencil make with your Size the outward Lines, the Boundaries of Rocks, and thoſe things which ſeem to lye beyond the Buildings.

XIV. Begin alſo with thoſe parts which are fartheſt diſtant from you, for then you will not be liable to the Inconvenience of rubbing or defacing any thing whilſt it is wet.

XV. The fartheſt parts being done, work juſt according to your Pattern, (if you have any) and draw your Gold Size on the places anſwering to the black Lines of your Print or Pattern, and no where elſe, leaving the white for the black Japan or Ground of your Work.

XVI. *And in all reſpects uſe your Size, as if you were to Copy the Print or Pattern on white Paper with Ink or black Lead*; only take care, that whilſt you are working in one part, you ſuffer not that already done with Size, to dry ſo much, that it will not hold faſt your Metals; for which cauſe you muſt often try what Condition your already ſized Work is in.

XVII. For this Cauſe ſake, you muſt ſometimes be Drawing; ſometimes Gilding: and then be Drawing again, and then Gilding; continuing thus alternately till your whole piece is compleated.

XVIII. If you find it troubleſome to draw the White, and over-paſs the Black; or on the contrary to draw the Black and omit the White, on the tops of Houſes, Foldage of Figures, Faces, or the like; then for your Eaſe, over-lay all thoſe parts of Buildings, Foldages, Faces, *&c.* with Gold Size, lay your Metals thereon; and when well dryed, waſh over thoſe places only which you deſign to ſet off with Black, with your *Securing Varniſh*.

XIX. Tho' in ſome Japan-work Silver is ſometimes made uſe of; yet it is but very ſeldom, except in ſome raiſed Works, becauſe the beſt and brighteſt Silver is too ſplendid a Metal for black Japan; and therefore we

chuſe

chuſe to uſe in place thereof a kind of dull or dirty Silver, which is *Ponder Tin.*

XX. *Laſtly,* You may ſet off your plain Metals when rubbed on Gold Size, either with Metals mixed with Gum-water or Gold-ſize, *viz.* when the plain Metals are laid and throughly dry, hatch or work in the Size for ſetting off, as you would do with Metals mixed with Gum-water; and without doubt you will find the Gold-ſize to be beſt.

CHAP. XIX.

Of Japanning with Gold and Colors.

I. DRaw or trace out your Deſign, and fill moſt part of your ſmall Works with Gold, paſſing by, notwithſtanding, ſome few of them to be reſerved for bright Copper, green Gold, *&c.* to be ſo added to the pieces, that they may grace and enliven the Work. It is uſual with the Japan Artiſts to fill frequently with dead Metals, and bind them in with Gold.

II. Suppoſe you have great Flowers; one of theſe Flowers you may fill the ſeeded part thereof with Silver, the Leaves with Vermilion, and in ſetting off, work it in Black Diamond-wiſe; and the little ſpots of Black which lye in the White, work with bright red Copper: then the part which is filled with Red, bind in with Silver, and vein it with the ſame.

III. Another great Flower, you may fill the Seed thereof with bright Copper; the Leaves with Silver: and in ſetting off, border the Seed with Black, the inſide with Silver, and compaſs in the Leaves with Gold, hatching them with Black.

IV. If any great Flower is partly hid with a large Leaf or Leaves of the Plant, let the Seed of this be green Gold: ſome parts bright Gold; and if any Spots are in thoſe parts, let them be done with pure Cinnabar; the Leaves of the Flower with Orange Tawney, and ſet off with Silver: and the Leaves of the Plant with yellow Green.

V. If

V. If there is another Flower, do it with green Gold, its Seed with bright Gold, ſquared with Black; other Flowers may be laid with Silver, ſeeded with bright Copper, and hatched and ſquared with Black: other Flowers with Cinnabar, the Seeds with tranſparent Green: encloſe them with Vermilion, and hatch in the Leaves with Silver.

VI. If another large Flower, let its Seed be red, bind it in, and chequer it with Silver; cover the Leaves with Blew, hatch and ſurround with Gold: other Flowers which are leſs, make them with Red; their Seed with Blew, and ſet off with Silver.

VII. Another great Flower may be laid with tranſparent Blew, bounded and wrought with Gold; the Leaves covered with Silver, and hatcht with pure fine Cinnabar. If there be another Flower like to the former, let it be laid in like manner with Blew, its Seed with dirty Copper, ſet off and encloſed with Silver, its Leaves with deep bright red Copper, and hatch with Black.

VIII. Other Flowers, lay their Seed in tranſparent Red, ſet them off with Silver, border with Black, make the Leaves Silver, and hatch with Black: or, make the Seed bright Copper, compaſſed and ſet off with Black; the Leaves red Copper, which you may hatch and encloſe with White.

IX. Theſe things we have given you for Example ſake, and thought good to make the Exemplar in that of Flowers, as being that in which the greateſt Nicety and Difficulty lyes, it not being ſo eaſily performed as other things; and yet in this very thing the *Licentia Picturalis* is very large, the Artiſt being left chiefly to his Fancy, only with this Caution, That every where he uſes Variety.

X. And tho' in what has been ſaid, filling and ſetting off has been mentioned together, for the more eaſy apprehending of the Matter; yet you muſt be ſure always to lay your plain Colors before you think of ſetting them off, becauſe you are more ready to ſet off with one Color before you undertake another, and your Fancy is more ready to adorn and furniſh or fill every ſingle Flower and Leaf.

XI. But the Flowers being filled, you are next to conſider what is to be the Covering of the great Leaves: adorn them with Metaline Colors, generally ſuch as are green, ſullied Gold, pale, dull Copper; but intermixing here and there tranſparent Blew and Green: bound and vein them with ſuch Colors as give the greateſt Life, ſuch as may be chearful, pleaſant and delightful.

XII. Sometimes double the Borders in the Leaves with the Ground Black of your piece left between, as your Patterns will inſtruct you; and make all your Veins, finiſhing Lines, and the Stroaks you ſet off with, fine, clean, even and ſmooth.

CHAP. XX.

Of Raiſed and Emboſſed Works.

I. THO' they who live in great Cities, where there are variety of Artificers, have no need of ſome part of the following Diſcourſe; becauſe they can buy Emboſſed and Carved Frames, Boards, Tables, Pieces, *&c.* ready made to their hands: yet for thoſe who live in the Country, and have not the opportunity or conveniency of procuring ſuch, we thought good to add in this place a few Rules and Directions how they may do the ſame things, and ſupply thoſe wants themſelves.

I. *The firſt Way.*

II. *You muſt firſt make the Model of your Deſign; and that muſt be done with Clay.*

Take good tough, well tempred Clay, and with proper Tools model it, and work out any ſort of Carving or Emboſſment which you fancy; then lay it aſide to dry in the Shade, for either Sun or Fire will crack it.

III. When it is perfectly dry and hard, and you purpoſe to caſt the Moulds on the Models, Oil your Models very well with Linſeed Oil; and having wrought the Paſte extreamly well between your Hands, clap it on and preſs it down cloſe every where, that it may be a perfect Mould in all parts; which, when it is dry, it is finiſhed.

IV. *To*

IV. *To make the Paſte for making your Moulds of.*

Make a Glew-water ſtronger than any Size, yet ſomething weaker than Joyners melted Glew: mix Whiting in fine pouder therewith, till it is as thick as Paſte or Dough; knead it very well, wrapping it up in a double Cloth; in which it may lye and get heat from the Fire; for you are not to let it grow cold, for then it will harden, and ſo be made unfit for Uſe.

V. *To make the Mould of any Carved Frame, thereby to imitate it in Paſte.*

Take ſome of the former Paſte, according to the length and magnitude of the Leaves and Flowers you would take off; you need not take off a whole length, for poſſibly you may find one and the ſame thing many times over in one ſide, ſo that one Mould may ſerve all of that ſort, they being well united or joined together. Work the Paſte between your Hands, and clap it in that part of the Frame which you intend to take a Mould of. Let there be ſo much Paſte as to make the back of the Mould flat and even: and whilſt the Mould is warm, take it from the Frame, and at the ſame inſtant fix it to a Board which is larger than it ſelf. After this manner you may take off any ſort of Emboſt-work or Carving from any part of your Frame; all which Moulds you may glew on little Boards, and ſo leave them to dry and harden.

VI. *To place your Paſte on Frames.*

The Joyner is to make your Frames according to your Deſign, which being ready, as alſo the Paſte and Moulds, you are to Oil the Moulds very well with Linſeed Oil, ſtriking the Bruſh into every little Creviſe and Corner, to prevent the Moulds ſticking to the Paſte: then take as much warm Paſte as will fill up the Moulds; work it again between your Hands, and whilſt thus warm and in good temper, put it into the Mould, preſſing all parts of it with your Thumbs and Fingers; and then with a Knife cut off the ſuperfluous Paſte even with the top of the Mould. Turn out this new-faſhioned Emboſt or Carved work on your Hand, and before it cools bruſh it over with thin Glew, as alſo the place it is deſigned for, and immediately put it upon your Frame in the ſame place, where it muſt always abide, preſſing it down or cloſe gently.

VII. Now Oil your Mould again, and with freſh Paſte prepare more Emboſiments or Carved-works in like manner, which caſt off, and place it upon your Frame as the former: and this Work ſo often repeat till your whole Frame is filled with your Emboſments according as you deſire.

VIII. Let it alone to dry for 5 or 6 days; after which you may ſafely lay your white Ground, which you may Paint, Varniſh, Japan, Gild in Oil, or Burniſh, as the Nature of your Work requires.

II. *Another way to make Raiſed or Emboſt Works.*

IX. Make a ſtrong Gum-*Arabick* Water, twice as ſtrong as that in *cap.* 3. *ſect.* 11. take Whiting, fine Bole, *ana* ℥j. grind theſe with the Gum-water *q. ſ.* till they are as fine and ſoft as Butter, and ſo thin, that if a Stick pointed be dipt into it, the Mixture will juſt drop from it: if it is too thick, make it thinner with Gum-water; if too thin, add more of the Whiting and Bole.

X. Dip ſuch a pointed or taper Stick into this Mixture, and drop on the Rock, Houſe, Tree, Flower or Fruit which you deſign to Raiſe or Emboſs, repeating this dropping of the Mixture ſo often till you have raiſed your Work as bold and as high as you think fit.

XI. *Sometimes you will find your Paſte to bladder or ſwell, but this is cauſed from an inſufficient grinding of the Whiting and Bole with the Gum-water.* Theſe Bladders, if not prevented or cured, will make your piece, when dried, to be full of holes, and ſo ſpoil its Beauty. The preventive part we have taught you: but to cure it, (if it is paſt prevention) you muſt when dry, wet a fine Rag, and with your Finger rub it over and over again, till the holes and cracks are choakt and ſtopt up; and then being perfectly dry, Ruſh it well till it is very ſmooth.

XII. In the *Japan*, which is raiſed for Garments, Rocks, *&c.* ſome parts are elevated and higher than others, as in *Pleats and Foldings of Garments*, thoſe which ſeem to lye underneath, are always at the greater diſtance. In *Flowers*, thoſe which are firſt and neareſt the Eye, are higheſt; and thoſe Leaves which lye firſt, are higher than thoſe which lye behind them. So in *Rocks*, the firſt and neareſt you muſt always riſe higher, and ſwell beyond that which is almoſt hidden, or ſeems to lye behind.

XIII. *This*

XIII. *This Rule holds firm in all things of like Quality*, and therefore you muſt raiſe your Deſign according to Nature, to its due height, whether Figure, Tree, Houſe, Flower, Fruit or Landskip; and being well dryed, with a little Gum-water, Vermilion and a Pencil, you muſt trace out the Lines for the Face, Hands, Foldings of Garments, Leaves of Plants, Seeds of Flowers, Fruits, Houſes, Trees, Rocks, *&c.* in their proper Shape, according to thoſe Lines which were drawn as Boundaries, for laying the Paſte in its proper Figures.

XIV. Then you muſt have ſeveral Inſtruments; as, 1. A *bending Graver*, ſuch as Engravers uſe. 2. Several *ſmall Chizels*, the broadeſt not exceeding a quarter of an Inch; all the other proportionably leſs.

XV. *With theſe your Raiſed or Emboſt Works muſt be cut, carved, cleared and ſcraped, in height, ſhape and proportion to your Pattern, or what is agreeable with Nature and the Deſign:* in this caſe, your Inſtruments muſt be exquiſitly ſharp, and the Hand of the Artiſt very eaſy and gentle, leſt the Work breaks off in any place, to the ſpoiling of the Piece: laſtly, ſmooth it with a Bruſh, which has been often uſed before, to make it fit for Painting, Varniſhing, Japanning or Gilding.

III. *Another way to perform theſe Raiſed or Emboſt Works.*

XVI. 1. Strike or trace out your Deſign, as well the inſide as the outſide of Faces, Necks, Hands, Legs, the chief Stroaks of the Foldings of Garments, Leaves of Plants, Flowers, Seeds, Fruits, Houſes, Trees, Rocks, Birds, Beaſts, *&c.*

XVII. 2. Take your Paſte before made in *ſect.* 9. yet ſomewhat thinner, and with it raiſe the lower parts of all or any of the Particulars afore-named, which require the leaſt height or raiſing; and let it dry throughly.

XVIII. 3. Then take the thickeſt *Seed-lac Varniſh*, and with a very ſmall or fine Pencil dipt therein, varniſh juſt the edges of your Raiſed-work, for this Reaſon, that as you raiſe the other parts of the Work higher, it may hinder the freſh wet Paſte from incorporating with the dry, which would make the Work look ill.

X. 4. *This Work of Varniſhing the Edges, you muſt do as often as you raiſe one part above another:* and ſtill as your Work grows higher, your Paſte muſt be made thicker,

and each part raiſed in order, beginning with the loweſt and ending with the higheſt.

XX. 5. When all is dry, ſmooth it (if need require) with a Ruſh, to make it in a poſture to receive your Colors and Metals, or what elſe you are pleaſed to put upon it.

XXI. 6. Your Metaline Colors being ready, mix them with Gum-water, and lay them on the Emboſments and places where they ought to lye; which being through dry, burniſh with a Burniſher (in *cap.* 1. *ſect.* 18.) till it is bright, and ſhines with a good Luſtre.

XXII. 7. This done, with your fine *Seed-lac Varniſh* and a proper *Pencil*, go over all your Emboſments twice or thrice; and then ſet it off or ſhadow it, as the Reaſon of the Deſign requires.

XXIII. 8. Grind no more Paſte than you can uſe at once, leſt it be dry before you uſe it a ſecond time: but if it be dry, you muſt grind it again, and it will be as fit as before: it ought not to be made too weak; if it be, it muſt be ſtrengthned with more Gum-water, which by many Tryals and Experiences you will at length fully find out; and alſo ſee, that it is poſſible to make a Paſte ſo hard or ſtiff and tough, that a violent blow with a Hammer ſhall hardly break or bruiſe it.

IV. *To ſet off Raiſed or Emboſs'd Works with Black.*

XXIV. Your Work being Varniſhed and Burniſhed, with Lamp-black mixt with a little Gum-water, (hardly enough to wet it, and incorporated with a Bruſh-pencil, with ſo much fair Water added to it as with a ſmall well pointed Pencil will make it to run in fine black Stroaks) draw the Lineaments and Features of the Faces, Foldage of Garments, Veins of Leaves, Flowers and Seeds, with the black Hatchments of your Flowers, Bodies of Trees, *&c.*

XXV. And if you would have any Rocks ſpeckled, firſt paſs them over with the ſaid Black; and when dry, give them two waſhes with the *Securing Varniſh*; and laſtly lay on the Speckles: but if the places you would ſpeckle ſhould be too ſlippery, ſo as that there ſhould be a hazard of their ſliding off; in this caſe, you muſt remove this greaſy kind of Slipperyneſs by a ſoft and gentle rubbing with a *Tripoli* Cloth.

XXVI. This

XXVI. This way of ſetting off is more uſed than that of a Tracing-pencil or breathing on it; not only for Raiſed or Emboſt Work, but for Flat-work too: for your piece being dry, ſtroak it once over with the *Securing Varniſh* (in *cap.* 4. *ſect.* 8.) then with a black-Lead-Pencil hatch and vein at pleaſure, and the ſame do with other Metals and Colors beſides Gold.

XXVII. *For inſtance: If a red Flower is to be ſet off with Silver*; firſt ſecure your Red with Varniſh; which being dry, hatch and vein it with Silver: this Rule you muſt obſerve in all caſes, where you intend to work one thing upon another, whether *Color* upon *Metal*, or *Metal* upon *Color*; or *Metal* ſometimes upon *Metal*.

XXVIII. Your Work being thus adorned and ſet off, if it is flat or plain Work, make uſe of white *Poliſhing Varniſh* (in *cap.* 4. *ſect.* 10.) to ſecure it both as to Draught and Ground-work, which will endure a Poliſhing.

XXIX. But if it is for Emboſt or Raiſed Work, then you muſt uſe the *Securing Varniſh* (in *cap.* 4. *ſect.* 8.) becauſe Emboſt-work will not bear a Poliſhing as the other will; but muſt only be ſecured and cleared up: but withal you may note, that this laſt named Varniſh may be uſed either for *Plain* or *Emboſt-work*, whereas the former is only fit for *flat Work*.

XXX. *In working with Gum-water, be careful that it be not too ſtiff of the Gum, for then it will quite ſpoil the beauty and luſtre of the Metaline Colors*: but when you have ſufficiently mixed them in the beginnig, if you find the mixture too ſtrong of the *Gum*, you may afterward weaken it, only with fair Water: and therefore ſtrengthen them only ſo much with *Gum*, as may cauſe them to ſtick cloſe to the Work, and endure *Varniſhing* without coming off.

V. *To manage Rock-Work.*

XXXI. Theſe we formerly told you were to be done laſt of all, becauſe they could not be well finiſhed, till all the reſt were compleated, except only ſome few ſcattered Plants, ſuppos'd to grow upon them, that they might not appear naked: yet not too many of them neither, leſt their number ſhould interrupt the Shadow, and confound the Sight.

XXXII. *If theſe Rocks are to be covered with Metaline Colors*, then lay *Gold*, *Silver* or *Copper* with your *Pencil*, in a full body, round the outward Streaks (which were traced with your *Pencil*) in breadth about a quarter of an Inch; but take care it be not too wet.

XXXIII. Then take a *large Gooſe Quil Pencil*, cut off its Point, making it flat, and blunt at the End; and with this touch or dab your Metal: after which do the like to the black or brown part of the *Rock*, that ſo it may be ſtrewed with ſome of the Metal too, and by little and little continue it, till the whole is ſtrewed over: but theſe *Speckles* ſhould be thicker towards the Sides and Top, than in or near the Middle.

XXXIV. *Laſtly, Other Metals, Artificial and Adulterate, may be laid on, according to theſe Directions*, which you may diſpoſe on and Work, both with your Finger, and the *blunt Gooſe Quil Pencil* aforementioned, according as your Reaſon ſhall inform you.

CHAP. XXI.

Of Bantam Work.

I. AS the *Japan Work*, is both *Plain* and *Embоſſed*, and is wrought moſt in *Gold* and other *Metals*: ſo the *Bantam Work* is alſo *Plain* and *Carved*, and is wrought moſt of it in *Colors*, with a very ſmall ſcattering of *Gold* here and there.

II. The Wood is prepared for this, as it is for the *Japan Work*, and the *Priming* with *Whiting* is the ſame: and for the *flat Work*, it is done in *Colors* mixt with *Gum-water*, as the nature of the deſign requires, the ordering of which Colors with the *Gum-water* we have formerly taught you.

III. *The Carved Work is performed thus.*

Your Cabinet, Table, Boxes, *&c.* let be made of Deal, or ſome other courſe Wood: this Prime with *Size and Whiting*, letting it dry; this muſt be ſo often repeated till your Priming is almoſt a quarter of an Inch thick, letting it dry between every time.

IV. *But*

IV. *But this you muſt note*, that your *Whiting and Size muſt be made thinner than for Japan Work*, but for that reaſon it muſt be done ſo much the oftner: for if it is too thick, it will not only lie rougher, and be apt to Crack, and fly off; but it will not ſo eaſily penetrate to the bottom of any Crack, nor go into every little Crevice, Notch and Hole, as it will certainly do, if it is pretty thin.

V. *Your Piece now Primed to its due thickneſs, and through dry*, is then to be Water plained, *viz.* to be rubb'd with a fine Rag, and a little fair Water; after which, being dry, *Ruſh* it as ſmooth as you can.

VI. *Then lay on your Black, and Varniſh it up with a good Body*; and after 6 or 7 days time of drying, Poliſh it with *Tripoli*, Water and a fine Rag, rubbing it with an even, eaſie and gentle Hand.

VII. *This done, trace and draw out your deſign with Cinnabar and Gum-water*, in the very ſame manner in which you intend to Cut and Carve it, with all the circumſtances and exactneſs Poſſible.

VIII. *Make your humane Figures, Birds, Beaſts, Inſects, Houſes, Trees, Flowers, Rocks*, &c. *in their due Meaſures and Proportions*: The foldings of Garments, leaves of Trees and Plants, withal other things, draw them ſo, as if they were ſo to remain without the leaſt Alteration.

IX. *Then having a ſharp Graver, and other cutting Inſtruments, of differing Forms*, cut out your Work deep or ſhallow, as you think beſt, but never Carving deeper than the Whiting lies, for the Wood it ſelf, ought not to be touched with the Graver.

X. *Leave alſo black Stroaks for the Drapery, and foldings of Garments, and for the diſtinguiſhing of one thing from another*, Carving where the white is, and leaving the black untouched, according as your Exemplar or Pattern may be, taking inſtructions alſo from a variety of *Bantam Pieces*, which differ vaſtly from thoſe of *Japan*, in the very manner of the Daughts, as well as in their other performances and finiſhing.

XI. *Your Carved Work being cut out clean and ſmooth, and finiſhed*, and your Colors well mixed, with fine and clean *Pencils* lay them into your Carved Work, as

your

your Reaſon, and the Nature of the thing ſhall direct you.

XII. *The Colors being laid on and finiſhed*, then lay the Gold on thoſe places you deſign it for, which may be *Pouder Gold*, or *Braſs Duſt*, mixt with *Gum-water*; but rather *Leaf Gold*, becauſe it not only looks Richeſt, but is that which the *Bantam Artiſts* always uſe.

XIII. *But it muſt be laid with ſomething a ſtronger Gum-water*, and to be laid on with a Pencil, and whilſt it is moiſt, your Gold is to be laid on, being firſt cut with a very ſharp, ſmooth, edged Knife into little Pieces, either on your *Leather Cuſhion*, or on a piece of Leather ſtraightly nailed to a Board.

XIV. *Take up the Gold with a little Cotton, and with the ſame Dab it cloſe upon your Work*, ſo (if your Gum-water is ſtrong) it will look Rich and Beautiful: otherwiſe (if weak) it will appear as it were Hungry and Starved when dry.

XV. *All this done, ſee you carefully clear up your black with Oil, but without touching your Colors, leſt you ſhould rub them off, or ſully them*; for this is not ſecured as the *flat Bantam Work* is; if any wet ſhould come to them, the Colors will be ſpoiled and come off. In this caſe, it is beſt to leave out the *Tarniſhing Colors*, and only uſe ſuch, as you may apply the *Securing Varniſh* to, without loſs of their Splendor and Beauty.

CHAP. XXII.

Of taking off Japan Patterns.

I. *YOUR black or other Colors being Varniſhed, then Poliſh, and make it fit for drawing*: but you muſt have your draught or deſign before you, in Paper, either drawn or printed.

II. *This Draught or Print*, let be rubbed all over the back ſide with Whiting or fine Chalk, wiping off all that Whiting or Chalk, which lies rough and duſty upon the Paper.

III. *Then*

III. *Then lay this Paper, Draught or Print, upon your varniſht Table or Box*, with the whited ſide next to it, and upon the very ſame place where you deſign the Draught ſhould be made, and with a piece of ſmall Wire, or a Needle fixed in a ſmall Wooden Handle, round (not ſharp Pointed) which is called a *Tracing Pencil*, go over, and Trace as much of the Print as you ſee convenient.

IV. *Take the moſt material and outward Stroaks with all the reſt*, which you think will be hard and difficult to draw without the Pattern or Draught.

V. *Thus by the help of the Whiting or Chalk*, you will have the groſs Faſhion of your Print or Draught, and ſuch other lines, which will be a direction to you, how to perform that which you would have done on your Table or Box.

VI. *Having thus finiſht your Draught with Whiting*, if you draw in *Gold Size*, uſe *fine Cinnabar* mixt with *Gum-water*, and with a *ſmall Pencil* dipt in it, go over all the lines made by the *Whiting*; for this will cauſe it, that it ſhall not eaſily come off, but you may work upon it with your *Gold Size* at pleaſure.

VII. *If you work Metals or Colors in Gum-water*, then trace or draw over your deſign with *Gum-water*, *mixt with Gold or Braſs Duſt*: by either of theſe ways when it is dry and finiſhed, *viz.* either in *Gum-water* or *Gold Size*, you may compleat and finiſh your Work.

CHAP. XXIII.

Of Gilding and Lackering in Oil.

I. *TO mix and lay on the Gold Size.*

Firſt Prime the Piece with due priming in *cap. 2. ſect. 23.* ℞ Then the beſt Gold Size, fat Oil, *ana.* ſo much of each as you think the piece may require: Grind them well upon a Porphyry, and put all into a Gally-pot. Dip a clean Bruſh into the Size, and paſs over all the Piece very thinly, jobbing and ſtriking the point

point of the Pencil into the hollow places of the Carved Work, ſo that no part may eſcape.

II. If *any place be untoucht with the Gold Size*, the Gold will not ſtick upon it, but it will be full of faults, and look very ill.

III. *Let it reſt 24 hours or more, ſo as it may be but clammy enough to hold the Metals:* breath upon it, if your breath ſtays upon it like a miſt, you may then lay on your Gold: or if it is ſo dry, that it does not diſcolor nor ſtick to your Finger, but is clammy, and not very willing to part with your Finger; it is then in a good Condition.

IV. *Should you Gild before the Size is dry enough*, it would as it were drown, and deprive your Gold of its Gloſs and Luſtre, and if you ſtay till the Size is too dry, you have then loſt your opportunity, for the Gold will not ſtick.

V. *To lay on the Leaf Gold.*

Upon your Cuſhion (in *cap.* 1. *ſect.* 13.) you are to cut the *Gold* and *Silver*, with a thin, broad, ſharp, ſmooth edged Knife. Then take your *Pencil*, *Cotton*, or *Pallet*, (made of a *Squirrels* Tail) breath upon it, and therewith touch, and take up the *Gold*; lay it upon the place you intend, preſſing it cloſe with the ſaid *Pencil* or *Cotton*.

VI. *Then cut ſome Leaves into ſmall Pieces, to cover ſeveral other parts of your Work, which may have eſcaped Gilding:* and thus muſt you proceed till the whole is over-laid and finiſhed: after 24 hours, with a fine large Hogs-hair Bruſh, jobb down, and preſs over the Work gently, that the Gold may be made to ſtick upon all the uneven and hollow parts of the Carving: then with fine ſoft ſhammy Leather, as it were, Poliſh and rub it over ſmoothly.

VII. *This being well done, your Gold will appear of an admirable Luſtre*, and its beauty will be ſo durable, that tho' expoſed to the Wind and Weather, it will not receive any damage for many Years.

VIII. *To Lacker in Oil, ſuch things as are to be expoſed to the Weather.*

You muſt obſerve the ſame method here, as in the former, excepting in this, that your *Priming* ought to be

whiter

whiter than the laſt, which is done by mixing a little *white Lead*, which has been Ground a long time with the former *Gold Size*.

IX. *Alſo your Silver Size ought not to be ſo dry as that of Gold, when the Leaves are laid on:* If theſe things be rightly obſerved, you cannot poſſibly Err in performing your Work.

X. *To Gild Carved Worked in Oil which is not to be expoſed to the open Air.*

Take Size, melt it, and put in ſo much Whiting as will only make it of a white Color: with this Size over your Frame once.

XI. *Then add more Whiting, till it is of a convenient Thickneſs:* and with this lay it over 3 or 4 times or more, as you find the Work requires it, letting it dry throughly between every time.

XII. *Being now dry, with a piece of* Fiſh Skin, *or* Dutch Ruſhes, *rub and ſmooth your Work:* after which, with a fine Rag, dipt in Water, Water plain it, rubbing it gently till it is very ſmooth, and ſo let it dry; and then Size it with ſtrong Size.

XIII. *When the Size is dryed, Lacker over your Piece twice, by a gentle heat*; and laying on your Gold Size, perform every thing, as is before directed.

CHAP. XXIV.

Of Gilding Wood with Burniſht Gold and Silver.

I. Take *Parchment Size* (in *cap.* 3. *ſect.* 8, 9.) and manage it as there directed, for the *Priming* or *Whiting* of your Piece, which repeat 7 or 8 times over, letting it dry between every time.

II. *But if it is a Carved Frame, and you intend Gilding of it*, then take yellow Oker, and grind it finely with Water, adding a little Weak Size to bind it: with this when warmed color over your Frame, and let it dry leiſurely.

III. Then

III. *To Gold Size your Piece.*

Either of the Gold Sizes (in *cap.* 3. *ſect.* 3, 7.) yet rather *the Firſt* of them, melt it, making it Blood warm, but ſo as it may be ſomewhat thin; ſtir it well with a *fine Bruſh*, and therewith Size over your Piece twice, without touching the hollows, or deepeſt part of the Carving; becauſe the yellow Color firſt laid on, is near in color to the *Gold*, and a fault in that kind will not ſo eaſily be diſcovered, becauſe of the ſhadows.

IV. *After* 5 *or* 6 *hours drying*, try if your Gold will Burniſh upon it, if not, alter your Gold Size, and do it over again.

V. *To lay on your Gold for Burniſhing.*

Having fixt your Work almoſt upright in a little reclining Poſture, that the Water may run off, and not ſettle in any of the Cavities; lay ſome *Leaves of Gold* on your *Cuſhion*, which hold in your left Hand with your *Pallet* and *Pencil*: have alſo a Baſon of Water by you, and *dry Whiting*, to rub your Knife ſometimes with, that the Gold may not ſtick to it.

VI. *Then with a Swans Quil Pencil, or a large one of Camels-hair, being dipt into the Baſon of Water*, wet ſo much of your Work, as will take up 3 or 4 Leaves, begining at the lower end, aſcending and Gilding upwards, laying on whole Leaves, or half Leaves, or leſſer pieces as your Work requires; and your intereſt alſo, which is to lay them on without waſte.

VII. *This done, wet ſuch another part of your Work*, laying on your Gold Leaves, with your *Pencil*, *Cotton*, or *Pallet*, and gently preſſing it cloſe: and this method purſue till the whole Piece is finiſhed.

VIII. *Now view over your Work, and ſee what parts have eſcaped your Pencil or Gilding:* In this caſe cut ſome *Leaves of Gold* into ſmall Pieces, and with a *ſmall Pencil*, wet the ungilded Parts, and apply the bits of Leaves as before directed: all this being done, let it ſtand 24 hours and no longer, and then come to burniſhing of it.

IX. *To Burniſh your Work.*

This is to be done with the *Burniſher*, (in *cap.* 1. *ſect.* 18.) by rubbing it ſmoothly thereon, till it attains a Gloſs: now having burniſhed ſo much of your Work as you deſign, leave the Ground of your Carving untoucht,

toucht, and ſome other parts which you ſhall think fit, which being rough in reſpect of the other, will ſet off and beautifie that which is Burniſhed.

X. *That which is not Burniſhed muſt be clothed or ſecured with Size, Seed-lac Varniſh,* or *Lacker*, if you would have it to be deep colored: but you ought to touch theſe parts only, and not that which is Burniſhed.

XI. *Then the Work muſt be ſet off with Lacker Varniſh, mixt with* Sanguis Draconis *and* Saffron, *or with* Ornatto: with which and a fine Pencil touch the hollowneſs of the Carving, hollow veins of Leaves, and foldings: if you do not think it deep enough, go over it again, with the aforeſaid *Lacker*.

XII. *To lay on your Silver Size.*

Take Silver Size new ground, and mixed with weak Size: warm it, and with a clear Pencil fit for the Work, Size it over once or twice: let it dry to a juſt Temper: and if your *Silver* will *Burniſh*, it is well: *if not*, you muſt Size it again, with ſome Alteration in the Size.

XIII. *Then wet your Work, and lay on your Leaf Silver, in the ſame manner as you laid on the Leaf Gold without the leaſt Alteration*, and to Burniſh it all over; if it be not froſty Weather, theſe things may be done, but if it is in time of hard Froſt, your Priming will be apt to Peel off, and the *Gold* and *Silver Size* will Freeze in laying on.

XIV. *Let your Parchment Size be ſomething ſtrong and new; for if ſtale it looſes its force:* nor grind any more *Gold* or *Silver Size*, than will ſerve the preſent Occaſion: *Laſtly*, keep your Work clean and free from Duſt, both before and after it is Gold Sized, and Gilded, otherwiſe in Burniſhing it will be full of ſcratches and look ill.

CHAP.

CHAP. XXV.

Of Gilding of Metals.

I. *TO prepare the Gold for this Work.*

℞ Leaf Gold, or Ducket Gold beaten very thin, and cut into little bits *q. v.* put it into a Gally-pot, and put ſo much *Quick-ſilver* to it, as will juſt cover it: ſtir them with a Stick, and make an *Amalgama*: which done, ſtrain them thro' a piece of *Shammy* Leather, ſqueezing the Leather hard with your Hand: that which remains behind in the Leather (and looks like *Silver*) is the *Gold Amalgamated*, and that which we muſt uſe in this deſign.

II. *To Gild Silver, Braſs, Copper, or Princes Metal.*

Firſt ſcrub the thing you would Gild with a *Wire Bruſh* and a little fair Water, and continue ſcrubbing and wetting it, till it is perfectly clean.

III. Take Quick-ſilver ʒj. put it into a little Viol, and drop into it 3, 4 or 5 drops of *Aqua-fortis*: with this mixture and a Rag, rub over your Metal, till it is every where as white as Silver.

IV. Now take your prepared or *Amalgamated Gold*, and with a little Knife, ſpread it over the whole Piece, not miſſing any part of it; and give it a heat over a Fire, to force the *Quick-ſilver* to evaporate or fly away, ſo will the *Gold* be left ſticking cloſe to the Piece.

V. But before you give it a through Heat, let it have 2 or 3 little Heats, that you may with a ſmall *Hair Bruſh* almoſt like that of a *Comb*, dab and ſpread your Gold, which you may the eaſier do, becauſe the warmth you give it, makes the *Quick-ſilver* the more ready to ſpread: after which give it the through Heat as aforeſaid.

VI. Take it from the Fire, and with a Hair ſcrub Bruſh, which has never touched *Quick-ſilver*, rub and cleanſe it, as you did in the beginning. Where Note, if there be any ſpot left ungilded, you muſt after it has been cleanſed with the *Wire Bruſh*, proceed again as aforeſaid,

VII. If

VII. *If you would have the Work more rich and lasting,* besmear it again with *Quick-silver* and *A. F.* and lay on the Gold again after the former Method: and this you may repeat so often, till your *Gold* lies as thick as your Nail upon the Metal to be Gilded.

VIII. *To heighen the Color, if you see convenient.*

℞ *Argal, Salt, Sulphur, ana q. v.* mix them, and put to them as much fair Water, as will cover the thing when put into it: boil them over the Fire, and having tyed your gilded piece to a String, put it into the boiling Liquor for a little space, viewing it every minute; and when it has obtained the Color which pleases you, put it immediately into cold Water and it is done.

IX. *Another way to heighten the color of your Gold.*

℞ Nitre, Sal-Armoniack, Sandiver, Verdigrise, white and green Vitriol, *ana*, grind them with white Wine Vinegar, which lay over all your Work, then lay it on a Fire, and give it a small Heat, that it may Smoak: and so take it off, and quench it in Urine.

X. *Another way to Gild Silver, Brass,* &c. First cleanse your Metal with *A. F.* then quicken your work with *Mercury,* then take of the afore *prepared Gold at Sect.* 1. and lay it on with a little Knife, spreading it every where, and do in all things, as in the other method.

XI. *To Silver over Brass or Copper, as Clock-makers do their Dial plates.* Having Leaf or burnt Silver in a readiness; put to it as much *A. F.* as will cover it: having stood an hour or two, decant off the *A. F.* as clean as may be: wash the Silver 3 or 4 times with fair Water, and then let it dry; *and then mix it with j. part of fine Argal to iij. parts of the Silver,* with a little fair Water.

XII. *Then when you make use of it, rub it on the work with a Cork, till it is silvered all over, and lies very fair:* after which dry it well with a Linnen Cloth, and having made it warm, wash it over 3 or 4 times with the best white Varnish (in *cap.* 4. *sect.* 1.) which will preserve it from *Tarnishing,* and other injuries of the Weather.

XIII. *To Gild Brass, Copper, Iron or Steel with Leaf Gold or Silver.*

If it is *Braſs* or *old Iron* cleanſe it very well with a *Wire Bruſh*; but if it is *new Iron* or *Steel*, having firſt made it very ſmooth, hatch your work all over very neatly with a *hatching Knife*, (which is a Knife with a ſhort Blade, and a long Handle.)

XIV. *Then give it an heat ſo as to make it look Blew on a Charcole Fire*; from whence take it, and lay on your *Gold* or *Silver*; and with a Blood-ſtone, or *Burniſher*, Burniſh it down a little: then give it the ſame heat again, and Burniſh it all over.

XV. *This work of Gilding, you may repeat* 6, 8 *or* 10 *times*; ſtill obſerving to give it the ſame heat, before you lay on your *Gold* or *Silver*, and then *Burniſh* it as afore-ſaid.

XVI. *To refine Silver.*

If you have ſome Silver which is courſe, and you are loth to looſe it, and are willing to make it ſerve for this Occaſion; firſt melt it in a Crucible, then caſt it into Water: when cold take it out and dry it; then *take Nitre* ℔ſs. *Antimony* ℥ſs. *mix and make a Pouder. Lay ſome of this Pouder and your Silver in a Crucible, S. S. S. cover it with another Crucible, luting them very cloſe together: being dry, put them into the Fire, which at firſt let be gentle, and encreaſe the heat Gradatim, to a melting Heat: after a while remove them to a cooler Place; and when cold, break the Crucible, and you will have the fine Silver at bottom; but the Scoria or Droſs in the upper part, which caſt away.* After the ſame manner *Gold* may be ſeparated from *Copper*.

CHAP.

CHAP. XXVI.

Of Gilding and Painting Mezzotinto *Prints.*

I. *These kinds of Prints, are to be preferred for this purpose, before those of Graving*; because that the former, if done with a neat and careful Hand, and on a good and fine grounded Print can scarcely be distinguisht from Limning: whereas, in all those that are Engraved, all the stroaks of the Graver are plainly Visible.

II. *Of* Mezzotinto *Prints, some have a course Ground; others have a fine and soft*: the first are Rough, and look as if they were the pricks of a Pen: whereas the other has soft and fine Shadows, like a piece neatly drawn with *Indian* Ink, or a black Lead Pencil.

III. *Before you chuse your Prints to work upon, see to the Paper they are Printed on:* if it is too thick, you may easily see it, by wetting a Corner of it with Water, or your Tongue; where, if it passes not thro' the Paper presently, 'tis not for your turn; but Paper which is thin and spungy, is that which you must chuse.

IV. *The Glass you make use of, ought to be true ground Looking-Glass, white, well Polisht, and not thick:* all other sorts of Glass whatever, will spoil your Work: if you Paint on Window Glass, your Colors will never appear Fair and Beautiful.

V. *The Frames for Glass Painting are commonly made of stained Pear-tree, either Square or Oval, with narrow mouldings for little Pieces*, which increase in breadth, according to the largeness of your Picture, and are made with *Rabbets*.

VI. *But the Frames for those Prints which you Paint without Glass, are called straining Frames*; you may have them Plain or Carved, Gilded, or Black, Flat, or with a half round; and flat without a *Rabbet* on the back side, half an Inch less than the Edge of the Cut, every way: and the reason of this is, because the Edge of the Cut

almoſt breaks the Paper in pieces round about; ſo that ſhould not the Frame come in, upon the Cut, every way beyond its Edge, it would hazard Tearing.

VII. *The next thing we come to is the painting of the Print, and this is done with Colors either Tranſparent or Opake.* The *Tranſparent Colors* are chiefly *Carmine, fine Lake, brown Pink, fine Smalt, diſtilled Verdigriſe* and *Ultramarine*,. The chief *Opake Colors* are *Flake white, yellow or Dutch Pink, light and brown Red, Terra-vert, Umber, Cologne Earth, Ivory-black, Blew-black, Vermillion, blew Bice, Maſticot yellow* and *pale, red Orpimennt.*

VIII. *Carmine* is the fineſt and moſt excellent Red, and is ſometimes ſold for 3 *l.* an ounce or more. *Fine Lake* is alſo an admirable Red, and is worth about 2 *s.* or 2 *s.* 6 *d.* an ounce. *Brown* or *Glazing Pink*, is a Color much about the price of fine Lake. *Fine Smalt* is a good Blew, and worth 4 or 5 *s.* a pound. *Diſtilled Verdigriſe* Ground may be had at the ſame rate with fine Lake, or brown Pink. *Ultramarine* is the richeſt Blew in the World, but of ſeveral Prices: the deepeſt and beſt is worth 6 or 7 *l.* an ounce; a mean ſort is ſold for 3 or 4 *l.* an ounce, and this is very good and fit for this Uſe: another ſort is worth 20 *s.* an ounce, which may ſerve for *Painting*, but is too courſe for *Glazing*.

IX. *The Opake Colors.*

Flake White, finely Ground with Nut Oil, is worth about 2 *s.* the pound. *White Lead* Ground in the ſame Oil, 12 *d.* a pound. *Yellow* or *Dutch Pink* when Ground, 3 *s.* 6 *d.* a pound. *Light* and *brown Red*, which are *yellow* and *brown Oker*, Burnt and Ground 4 *s.* the pound. *The ſame* finely Ground in Linſeed Oil, 3 *d.* an ounce. *Terra-vert* is but now and then uſed in this Painting, but much in all others. *Umber*, *Cologne Earth*, *Ivory-black*, and *Blew-black* when Ground, 3 *d.* an ounce. *Vermillion* finely Ground is now worth 10 *s.* a pound. *Blew Bice* only uſeful for making green Colors, 4*d.* or 6*d.* an ounce. *Maſticot*, the fineſt and free from Grit, which is of the brighteſt Color is beſt, and is worth 2 *s.* an ounce. *Red Orpiment*, which muſt be mixed with drying Oil, 2 *d.* an ounce.

X. *All*

X. *All the tranſparent Colors muſt be Ground with Nut Oil*: ſee *cap.* 2. *ſect.* 36. *Opake Colors* are ground moſtly with *Gum-water*, ſome with *Gold Size*, and ſome with *Linſeed Oil* and *drying Oil*.

XI. *To prepare your Prints without Glaſs or ſtraining Frames.*

Firſt ſteep your Print in warm Water flat ways, for 4 or 5 hours or more, if the Paper be thick, when it is ſufficiently ſteeped, lay it ſmooth on a wet Table, with the Print ſide downwards, and rub it carefully and lightly with a bit of *Spunge*, rubbing it off, and peeling it ſo long, till the Print appears tranſparent on the back-ſide: this done, with common Paſte do the back of your Frame, and Paſte your Print upon it whilſt it is wet.

XII. *Let it now dry, and then Varniſh it on both ſides, 4 or 5 times with Maſtich or Turpentine Varniſh*, till it is ſo tranſparent, that you may ſee the Picture as plain on the back-ſide, as on the fore-ſide.

XIII. *To Varniſh, Poliſh, and finiſh Pictures not laid upon Glaſs.*

They are done as thoſe on Glaſs, but if you have a mind to adorn, Embroider, Fringe, or the like, with *Gold* or *Silver*, touch then the fore-ſide of your Picture with *Shell Gold* in *Gum-water*, or elſe after you have Varniſht it 2 or 3 times with the *beſt white Varniſh*, or ſome other; take the *beſt Gold Size*, with which hatch, and lay it over with *Gold Duſt*: and with Judgment touch and heighten all the ſtrongeſt lights, and deepen your ſhadows too, on the fore-ſide.

XIV. *This gives ſo much life to your Work, that Artiſts themſelves have ſometimes been deceived, and took it for a piece of real Painting.*

If now you would Varniſh and Poliſh, any of theſe kinds of Prints, lay on the Colors fine and ſoft, and very even on the back-ſide, and after a Weeks time Varniſh them.

XV. *As to the diſpoſing and laying on of Colors, it is the part of a Limners work to do that, and therefore is not our work to teach here:* but if you would be fully inſtructed in the method of doing it, have recourſe to *Lib.* 2. *Cap.* 25, 26, 27, 28. where you cannot miſs of all the directions

rections which are neceſſary for this purpoſe: ſee alſo, *Cap.* 27. *Sect.* 8, *ad* 31. following.

XVI. *To Varniſh theſe Prints.*

Take the *beſt white Varniſh* (in *cap.* 4. *ſect.* 1.) Maſtich Varniſh (in *cap.* 4. *ſect.* 15.) *ana:* mix them together, and with a fine *Camels-hair Bruſh*, Varniſh over your piece 4 or 5 times carefully by the Fire, as is formerly taught, and you will find it to have a very good and firm Gloſs.

XVII. *But if you would Poliſh them after Varniſhing*, you muſt uſe only the *beſt white Varniſh*, without any *Maſtich Varniſh* mixt with it, and therewith waſh over your Picture or Print, 5 or 6 times, directly obſerving all the methods for *Japanning:* after 4 or 5 days, lay the Picture on the Cuſhion, on which you cut your *Leaf Gold*, and with *Tripoli* and Water Poliſh it, and then clear it up as you do *white Japan.*

CHAP. XXVII.

Of laying Prints upon Glaſs.

I. TO *prepare the Prints, whether Mezzotinto or Engraved.*

Steep your Prints flat-ways in warm Water 4 or 5 hours, or more if the Paper is thick; then with a thin pliable Knife ſpread *Venice* Turpentine thin and even over the Glaſs; and with your Fingers dab it all over, that it may appear rough.

II. *Afterwards take the Print out of the Water*, lay it on a clean Napkin very ſmooth, and with another Napkin preſs every part of it lightly to ſuck and drink up the Water.

III. *This done, lay the Print on the Glaſs by degrees, beginning at one end*, ſtroaking outwards that part which is juſt faſtning to the Glaſs, that no Wind or Water may lye between it and the Print, and which you muſt be always careful to ſtroak out.

IV. *Then wet the back ſide of the Print, and with a bit of Spunge*

Spunge or your Finger rub it lightly over, to rowl off the Paper by degrees; but carefully avoid rubbing it into holes, eſpecially in the Lights which are moſt tender.

V. *When you have peeled it ſo long, till the Print appears tranſparent on the backſide,* let it dry for 2 hours; after which Varniſh it over with *Maſtich Varniſh* (in *cap.* 4. *ſect.* 15.) or *Turpentine Varniſh* (in *cap.* 4. *ſect.* 14.) 4 or 5 times, or ſo often till you may ſee clearly thro' it, and after 24 hours you may work or paint on it.

VI. *Another way to do the ſame.*

Soak the Print in Water, and dry it with Cloths as aforeſaid; and ſpread the Glaſs with Oil of Maſtich and ſome Turpentine, or with *Maſtich Varniſh* (in *cap.* 4. *ſect.* 15.)

VII. *Then lay on the Print upon the Glaſs exactly as before; and when it is almoſt dry, roul or rub off all the Paper, leaving only the Shadow or Figure behind:* you may bruſh it off with a Bruſh till you ſee none but the inky and ſhadowed part remains, then Varniſh it over with *Maſtich Varniſh*; which keep to dry, and from Duſt, till you begin to Paint it.

I. *To Paint Mezzotinto or Engraved Landskip.*

VIII. Whether in Landskip or other Prints, the firſt thing to be done in this Work, is to *Glaze* all thoſe places which require it: but do your Work ſitting, not ſtanding, becauſe you will the more ſteadily move the Hand and Pencil: beſides, you ought then to have a Table Eaſel, almoſt like to a Reading Desk, ſaving that whereas there is a Pannel or back Board for the Book, here the Painting Desk is all open, only with 3 or 4 Wyres to keep the Picture from falling through, and a narrow Ledge at bottom to ſupport it, and little holes made equally diſtant on both ſides thereof, as in Painters Eaſels, that by Pegs or Pins, and a Ledge laid upon them, you may raiſe your Picture higher or lower as beſt agrees with your Conveniency: lay alſo a Sheet of pure white Paper behind the Picture on the Table, and you'll find it better for your Purpoſe; than placed againſt the Window.

IX. *If you would have your Glazing to lye thin and dry quickly, mix Varniſh when you lay it on the Pictures, and in* 4 *or* 5 *hours time they will be fit for to receive other Colors:*

and in *Landskips* you ſhould firſt Glaze the neareſt and great Trees, grounding them well with brown Pink; but if you would have them greener, add diſtilled Verdigriſe.

X. *Trees which you would have of a lively and beautiful Green, as alſo Leaves and Weeds,* muſt be Glazed with *Dutch* Pink and diſtilled Verdigriſe: but the Trees farther off, with Verdigriſe alone.

XI. *Hills, Mountains and Trees at the greateſt diſtance of all,* are to be Glazed with fine Smalt, a little Lake and Verdigriſe, all thinly mixt with Varniſh.

XII. *For the Sky, take Ultra-marine,* or for want of it, fine Smalt: mix it thin with Varniſh, and Glaze it over 2 or 3 times with a clean large Pencil, and a very ſwift Stroak, for if you are tedious, 'twill dry ſo faſt, that you cannot poſſibly lay it even.

XIII. *If your Landskip is furniſhed with Figures, Buildings, Rocks, Ruins,* &c. *they require finiſhing firſt of all, before any thing elſe is done:* the Mixture of Colors for theſe things conſiſts chiefly of *Blacks, Whites* and *Yellow,* with ſometimes a little *Red:* but the Mixture, Compoſition and Proportions of them muſt always be left to the Experience and Practice of the Artiſt, with this Conſideration, that all the Colors for this kind of Painting, ought to be very light.

XIV. *Now, to finiſh the Trees, Ground and Sky, with the reſt of the Picture,* begin as before with the neareſt or greateſt Trees: and with yellow Pink and white, Paint over the lighteſt Leaves: but with a darker color of Pink, and a little Smalt, go cleverly over the darkeſt and outward Leaves with a ſmall Pencil dipt in Varniſh.

XV. *Theſe Trees you would have beautiful, Paint with a Mixture of yellow Maſticot, White and Verdigriſe:* the darker parts with *Pink, Verdigriſe* and *White;* as alſo thoſe Trees which you Glazed with Verdigriſe only, they being mixed very light with White.

XVI. *But to finiſh the Sky and Foreskip, if any Clouds appear, touch them with Verniſh and light Color, made of White, yellow Oker and Lake:* and with theſe likewiſe touch the lighteſt parts of Hills and Towns, at remoteſt diſtances: mix alſo Smalt and White as light as you can to Paint over the Sky: and to theſe add a Tincture of Lake,

Lake, to ſhadow over the darkeſt Clouds, letting all your Colors lye thin and even.

XVII. *If you would have the Picture look more lively*, ſet it againſt the Light or on the Eaſel, and tho' it is Painted all over, yet you will perceive the Lights and Shadows through it; if not, what was before Painted will direct you; your Skie and Foreſight then are to be Limned with the ſame, but lighter Colors than the former, and every part beſides reſpectively.

II. *To Paint a Humane Body; and firſt the Face.*

XVIII. Glaze and touch the deep Shadows thinly with Lake, brown Pink and Varniſh; and the white Speck and black Ball of the Eye, as the Print ſhall direct you: alſo the round white Ball of a convenient color. Make the Lips of a fine Red with Carmine or red Lake: the dark ſide of the Face ſhadow with Vermilion, yellow Pink and white. Give ſome touches on the ſtrongeſt Lights of the Face, as top of the Noſe, Forehead, by the Eyes, Mouth and Chin, with a Color made of white, pale Maſticot, or yellow Oker, and a little Vermillion, mixt as you ſhall ſee fit. Then mix it a a little darker, and lay it all over the Face not painted before; but the Mouth and Cheeks make ſomewhat redder. Then with a fine clean Pencil, a little worm Hatch, and ſweeten all your Colors and Shadows, cleanſing the Pencil as oft as it requires. If any part is too pale, you may help it whilſt your work is moiſt.

XIX. *Now here is to be noted, that you muſt uſe no Varniſh in painting of fleſh Colors, except what is uſed in Glazing the Shaddows*; for ſhould you mix *Varniſh* with them, you will meet with this inconvenience, that the Colors will dry ſo faſt, that you cannot be able to ſweeten the Shadows with the Fleſh.

XX. *A ſwarthy Complexion.*

Mix the Fleſh color with white, yellow or brown Oker, and light Red, with Shadows fitting. The like obſerve in Painting Necks, Shoulders, Breaſts and naked Bodies, as in the Face. When any of them are dry, you may go over with them again, by which ſecond Operation, you abſolutely mix your Colors to your deſire. Let your Hand be ſteady, and let not your Pencil traverſe or go over upon Lines of a differing Color.

XXI. *For*

XXI. *For the Hair.*

Uſe not Varniſh nor Colors near ſo dark as the Life, for the Print will darken it; for black Hair, mix white, black, red Oker, with a touch of Lake or light Red, all which produce an Aſh-color, and the Hair being colored with it, will repreſent a natural Black. To make the Curles ſhew ſtronger, touch the lighteſt parts with a lighter Color, and the darkeſt with the contrary, all which may be ſeen through, if not laid too thick.

III. *For Drapery.*

If the Color is broken, take care of its mixture, ſo as to make 3 degrees of the ſaid Color; one the very Color, another more Light, and the third Darker, which is for the darkeſt Folds, as the lighteſt is for the lighteſt parts; and the Color between both, for the other parts of the Garment. Embroidery or Fringes are done with Shell, or poudred Gold or Silver. Mix your Metals with Gum-water, and with a fine Pencil Hatch, or Embroider your Flowers, and touch the Fringes or what elſe you deſire, before you either Glaze or Paint the Drapery deſigned.

XXIII. *Changeable Drapery.*

If you would have the ground Purple, and the lights yellow; take a fine Pencil dipt in Varniſh, and with yellow Maſticot, touch thinly all the lighteſt part of the Folds, and if need be repeat it, for your Color muſt be very thin with Varniſh: when dry, glaze it over with Lake and Ultramarine, or Smalt, with Varniſh, once or twice, letting it dry. Then mix 3 degrees of a purple Color, of Lake, Smalt, and White, and lay them on, as directed in the laſt Section.

XXIV. *Yellow Drapery.*

For the lighteſt Folds, mix yellow Oker, and White: and brown Oker for the Shadows; or Umber, if you would have it darker: but do the other Folds with yellow Oker; or with white mixt with yellow and brown Pink.

XXV. *The moſt beautiful Yellow.*

Glaze your Drapery, or what you would have look pleaſant with brown Pink, once or twice, and the darkeſt parts oftner: being dryed, touch the lighteſt Folds

Folds with pale Maſticot, then with yellow Maſticot; and if any part requires a darker Color, with yellow or brown Pink, and a little Umber: when dry, Paint all with white except the Shadows.

XXVI. *The beſt Blew.*

Mix with thick Nut Oil Ultramarine: or, if you cannot wait the drying, inſtead of Nut Oil, uſe Varniſh, and glaze the Garment 3 or 4 times over, letting it dry between every time: when dry, mix three degrees of Smalt and White, very light, and with the cleareſt white, do the lighteſt Folds, and the reſt as the reaſon requires. If Ultramarine be too dear, you may by the ſame method Glaze with fine Smalt, and Varniſh it as often as the former, and Paint it with White and Smalt. An ordinary Blew, is made with White and Smalt, mixt in ſeveral degrees, but without Glazing.

XXVII. *Purple without Glazing.*

Make a mixture of Lake, Smalt, and White, with which perform your Drapery: heightning and darkning the Folds, as before directed.

XXVIII. *Purple Drapery, Painted and Glazed.*

Let it be thin Glazed once, with Carmine or Lake; and when dry, Paint it every where with Smalt and White, lighter or darker as you deſire; letting ſtill the lighteſt Folds, have ſtill a Color more light than the other Parts. On the contrary you may have a Purple by Glazing your Figure over with Ultramarine or Smalt, and Painting it with Lake and White.

XXIX. *Ordinary Red without Glazing.*

Paint the ſtrongeſt Lights with White mixt with Vermillion; but the dark Shadows, with a dark or light Red, and the reſt with Vermillion: for the lighteſt Folds mix light Red and White: for dark Folds, brown Red: for the other Parts light Red only.

XXX. *Another Red, almoſt as good as the fineſt.*

Grind red Lake finely in Oil, temper it well with drying Oil and Varniſh, and with this Glaze over your Garments 2 or 3 times; and when dry, Paint the lighteſt with White; the darkeſt with light or brown Red; and the reſt of the Drapery with light Red only.

XXXI. *The*

XXXI. *The fineſt of all Reds.*

Take Carmine and mix it with Varniſh alone, with which once Glaze over your Garment, and if you would have it very beautiful, two hours after do the ſame again: when dry, Paint all (except the dark Shadows which ſhould have Red) with Vermillion and White, or with Vermillion only. If you can (when dry) ſee thro' the Colors, touch the lighteſt Folds over with clear Whites, and they will appear yet more Beautiful.

APPENDIX.

CHAP. XXVIII.

Of making Sealing Wax and Glews.

I. *TO make an ordinary Red ſoft Sealing Wax.*

℞ Common Bees Wax, ℔j. Turpentine, ʒiij. Oil Olive, ʒj. melt all theſe together, then add thereto red Lead, ʒiij. boil a little, and ſtir till almoſt Cold: caſt it into fair Water, and make it up into Rouls or Cakes.

II. *The beſt Red ſoft Wax.*

℞ White Bees Wax, ℔j. *Chio* Turpentine, ʒiij. Oil Olive, ʒj. mix and melt: then add pure Vermillion in fine Pouder, well Ground *q. ſ.* or ʒj. mix and boil a little, ſtir till almoſt Cold, caſt it into cold Water, and then make it up into Rouls or Cakes.

III. *To make Green ſoft Wax.*

℞ Bees Wax. ℔j. Turpentine, ʒiij. Oil Olive, ʒj. mix and melt: then add fine Verdigriſe, ʒj. mix and make the Wax up as the former.

IV. *To make Yellow ſoft Wax.*

℞ Yellow Bees Wax, ℔j, Turpentine, ʒiij. Oil Olive, ʒj. mix and melt: then add Cambogia in fine Pouder,

Pouder, ℥ij. Auripigment finely ground, ℥j. mix and make the Wax as before.

V. *To make Black ſoft Wax.*

℞ Bees Wax, ℔j. Turpentine, ℥iij. Oil Olive, ℥j. mix and melt them together: to which add black Earth, or Lamp-black, or Ivory-black finely ground, ℥j. mix, *&c.*

VI. *To make Perfumed ſoft Wax.*

This is done by mixing with ℥xx. of any of the former Compoſitions, Oil of *Rhodium*, ℨj. Musk in fine Pouder, ℈j. *Civet*, ℈ſs. mix them well.

VII. *After the ſame manner you may make ſoft Wax of all Colors*, having what Scent you pleaſe, by mixing the perfume intended either with the Oil Olive before Hand; or elſe by working it into the Compoſition of the Wax, after it is made.

VIII. *To make fine Red hard Sealing Wax.*

℞ Pure fine Shell-Lac, melt it in an Earthen Veſſel; and put into it a ſufficient quantity of the Color you deſign your Wax to be of; to every ℔j. of Gum-Lac, put of purely fine ground Vermillion, ℥iij. to ℥iiij. melt, ſtir, and mix them well over the Fire: then take it off, and when it is of a fit heat, make it up into Rolls or Sticks: *upon which you may ſet a Gloſs by gently heating them over a naked Char-cole Fire, and rubbing them with a cloth till they are cold.*

IX. *To make fine hard Sealing Wax of other Colors.*

Blew Sealing Wax, is made after the ſame manner, and in the ſame proportions, with Ultramarine, or fine blew Smalt. *Green Sealing Wax*, with fine Verdigriſe. *Yellow Sealing Wax*, with finely ground Auripigmentum, or yellow Maſticot. *Purple Sealing Wax*, with Vermillion mixt with Ivory-black, or Lamp-black. *Black Sealing Wax*, with Ivory-black.

X. *To make courſe hard Sealing Wax.*

℞ Shell-Lac, ℥xij. Roſin, ℥vj. fine Vermillion, ℥vijſs. melt and mix them together, and when in a due heat make it up into Sticks or Rouls. Upon which you may ſet a Gloſs as directed in *ſect.* 8. aforegoing.

XI. *To make mouth Glew.*

Diſſolve *Iſing-glaſs* in fair Water, in a gentle *B. M.* then ſtrain it thro' a wide Hair Sieve whilſt it is hot,

upon

upon another courſe, and cloſe Hair Sieve; when it is cold it will be thick like Gelly. Cut it into long handſome Pieces, which put on a String, ſo they touch not one another, and hang them in the Sun, till they are dry. You may give it a fine taſte and ſmell by mixing ſweet and odoriferous things therewith.

XII. *A ſtrong Glew for Pipes and Aquæducts.*

Take Tobacco Pipe Clay, dry and make it into Pouder: mix with it good ſtore of ſhort Flocks, and beat it up with Linſeed Oil to a ſtiff Paſte, like kneaded Dough. This makes a long and laſting Cement for Pipes and Aquæducts: and being put upon Pipes (though long a drying) is very ſtanch and laſting.

XIII. *To make a very ſtrong Glew.*

Soak the fineſt *Ichthyocolla* or *Iſing-glaſs* 24 hours in Brandy, then boil all very gently together, continually ſtirring of it, that it burns not, ſo long till it becomes one liquor or body (ſave ſome Strings not diſſolvable) which ſtrain whilſt hot, thro' a courſe Linnen Cloth, into a Veſſel where it may be kept cloſe ſtopt. A gentle heat will melt this Glew into a tranſparent Liquor, with which you may Glew things ſo ſtrongly together, that they will break rather in any other Part, than in the place glewed. *This much exceeds common Glew.*

XIV. *To make the beſt and ſtrongeſt Glew, for Glewing the Joints of Boards.*

℞ Scummed Milk which has ſtood ſo long, that no more Cream will ariſe from it: Scum it very clean, and ſet it over the Fire in a Leaden Pot, letting it boil a little; and if any Cream ariſe take it off. Then put into it a ſufficient quantity of Joyners Glew cut into ſmall bits, which will ſoon melt: boil it to a good body, that it may be neither too thick, nor too thin, (for in this boiling lies much of the Art;) take it from the Fire, and keep it for uſe, as other Glew.

XV. *This Glew binds beyond belief, and will not be ſubject to reſolve with any ordinary moiſture of the Weather:* and the reaſon is becauſe the *Curdy Part* of the Milk, freed from its Oil, is joined with the *Glew*. Now you muſt take care, that it burns not to the ſides of the

the Pot, for then it will be deprived of its ſtrength: To prevent which, (both in its firſt making, and in your after melting of it) you had beſt both to make and melt it in *B. M.* or a boiling Veſſel of Water, ſo will you prevent burning, and by thoſe means boil it more ſafely to what body you pleaſe, without danger of hurting the Glew.

Libri Undecimi & Ultimi:

FINIS.



ADVERTISEMENT.

A Compleat Dictionary of the *Greek* and *Roman* Antiquities, explaining all the obſcure Places in all the Claſſic Authors, and Ancient Hiſtorians. Compiled Originally in *French* for the Uſe of the *Dauphin*, &c. Now made *Engliſh*, with the Addition of very uſeful Mapps. Printed for *J. Nicholſon*, *T. Newborough*, and *J. Bullord*.

ADVERTISEMENT.

DR. SALMON's FAMILY PILLS, *prepared and made by himself at his House near* Black-Fryers Stairs, London.

The Price of each Box (containing 12 Pills, being 2, 3, or 4 Doses) is 1 Shilling, with a Printed Paper of Directions.

I. *These* Family Pills *are peculiar for the Cure of the Scurvy, Dropsy, and Gout. They Cure the Scurvy, (the chief Reigning Disease in this Kingdom) when it is grown so bad, as to become Scandalous, so that many People think it to be some ill Disease.*

II. *For the Scurvy often causes great pains in the Head, Nose, Shoulders, Arms, Legs, and Bones, with other pains all over the whole Body: It causes also Dulness and Heaviness, with rediſh or blueish Spots, and breakings out in the Skin, with Spots, Stains, Pimples, Pushes, Boils, Scabs, Scurff and Morphew, scattered up and down in many places.*

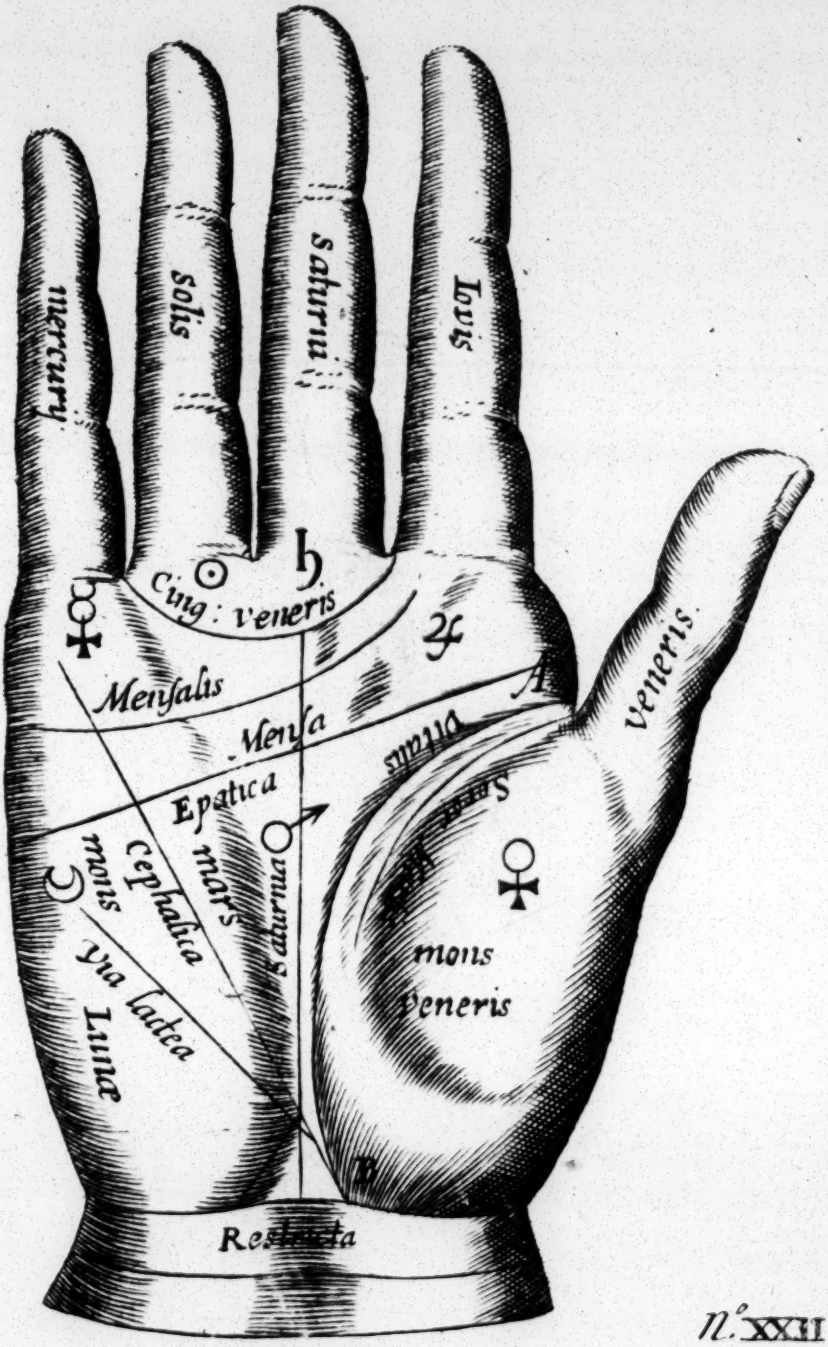
III. *The Scurvy also causes a bad Stomach, and sometimes loss of Appetite, looseness and soreness of Teeth, Throat and Mouth, weakness in the Back and Loins, with a general weakness and faintness all over the whole Body, insomuch, that at last it gets into the Bones, and infects the very Marrow of them. This Cruel Disease these* Family Pills *Cure at a few times taking.*

IV. *They Cure after an admirable manner the* Dropsy *and* Gout, *taking away the Water in one, and the Pain in the other, tho' never so great, beyond expectation, giving present Ease, Relief and Comfort: They work gently by Stool and Urine, (rarely by Vomit, unless the Stomach be very foul) curing thereby most curable Diseases, even when the Patient has been given over by others as uncurable,*

V. *They kill all sorts of* Worms *in Old or Young; and utterly root out the* King's-Evil *tho' of many Years standing: They excellently Cure Wind, Vapours, Fits of the Mother, Cloggings, Stuffings, Gnawings, and illness at Stomach, Jaundice, Lingring Disease, Melancholy, Catarrhs, Vomiting, Surfeits, and restore in deep Consumptions, where are Coughs, Wheezings, Hoarseness, and faint Sweats, with loss of Complexion.*

VI. *They Cure the Cachexia in Virgins, Greensickness, Head-ach, Lethargy, Megrim, Vertigo or Giddiness, stoppage of the Courses in Women, Rickets in Children, Fluxes of the Bowels, dimness of Sight, pain in the Ears, difficulty of Hearing, Rheums, Stinking Breath, the Sciatica or Hip Gout, carrying off all salt, sharp and evil Humors.*

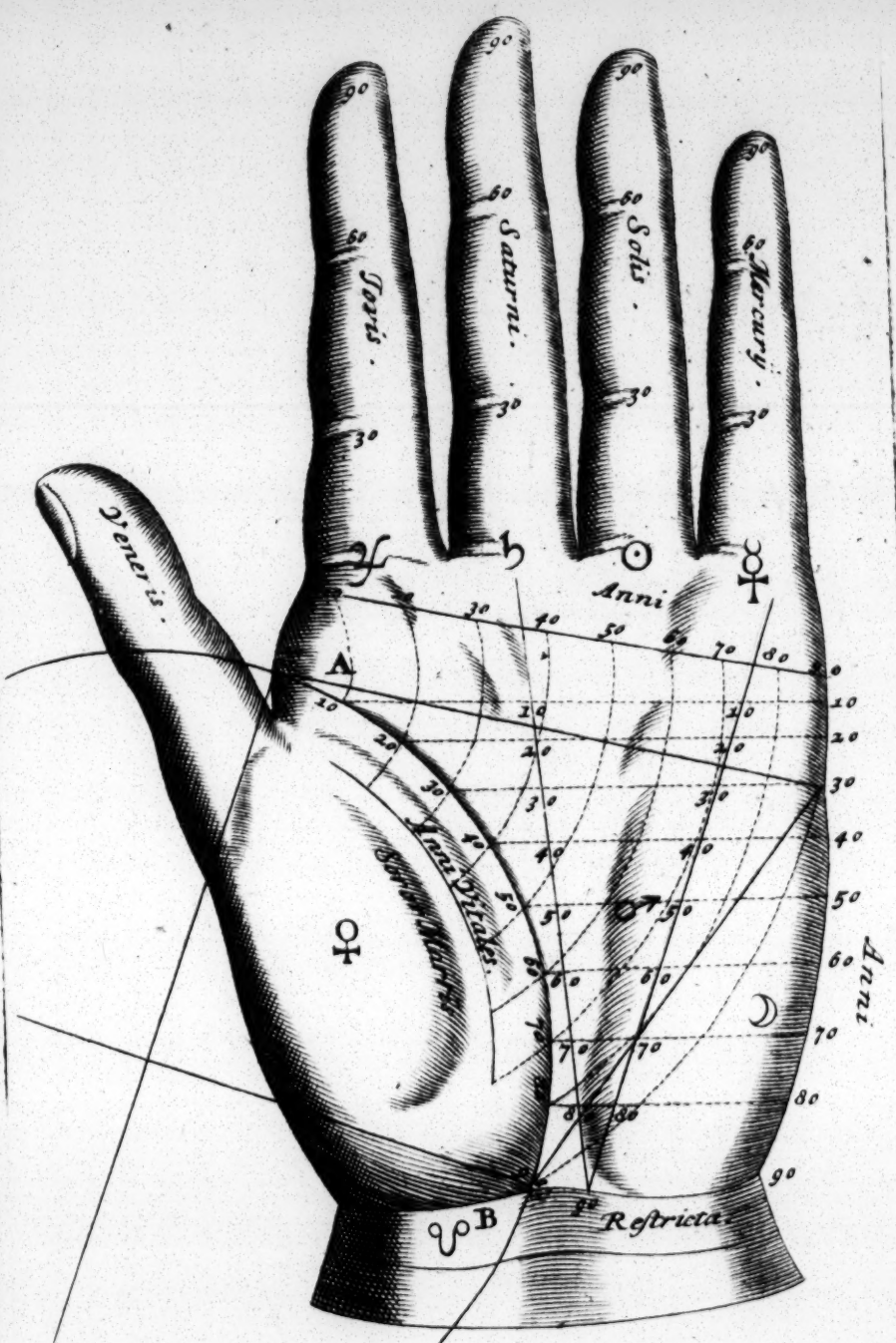
VII. *They cleanse and cure a Gonorrhea, are good in the foul Disease, with all its Symptoms, being duly taken for some time: They quicken the Senses, clear the Sight, add a good Colour to the Face, and make the Body able to withstand Diseases; being of a Friendly quality, and performing all their operations as nature her self requires, with much safety and ease, and without Griping or making Sick, being fitted for all Persons of what Age, Sex, or Constitution soever.*



n.° XXII

Iobi 37. 7.

Qui in manu omnium hominum signa posuit: ut cognoscerent opera eius singuli.


Veneris.
Jovis.
Saturni.
Solis.
Mercurij.
Anni
A
B
Linea Vitæ.
Linea Mortis.
Restricta.
Lunæ

N°. XXIII